OCTOBER 1, 1954

MODERN MEDICINE

The Journal of Diagnosis and Treatment

Dr. Charles C. Higgins

Table of contents page 2

in hypertension

Nitranitol with Rauwolfia

tandem action for safe, gradual, prolonged relief

Nitranitol for prompt relief of distressing symptoms... slower acting Rauwolfia for prolonged hypotensive and quieting action--no lag in symptom relief. The combination means normal life sooner for your essential hypertensives... *no* jolting of the vasomotor reflexes... side effects are uncommon.

write: **Nitranitol R.S.** (RAUWOLFIA SERPENTINA)

for a more normal life sooner for your hypertensive patient

Rx INFORMATION

Nitranitol

SIX DOSAGE FORMS

Nitranitol R.S.
for direct vasodilation plus the added central hypotensive and calming actions of Rauwolfia serpentina
Mannitol hexanitrate . 32 mg.
Rauwolfia serpentina (alseroxylon fraction) . 0.5 mg.

Nitranitol
for safe, gradual, prolonged vasodilation
Mannitol hexanitrate . 32 mg.

Nitranitol with Phenobarbital
for the nervous hypertensive
Mannitol hexanitrate . 32 mg.
Phenobarbital . . . . 16 mg.

Nitranitol with Phenobarbital and Rutin*
for protection in capillary fragility
with Rutin . . . . . 20 mg.

Nitranitol with Phenobarbital and Theophylline*
in threatened cardiac failure
with Theophylline . . 100 mg.

Nitranitol P.V.*
in refractory cases
with alkaloidal fraction of Veratrum viride, standardized for hypotensive activity . . . 1 mg.

DOSAGE: In blood pressures over 200 systolic, 2 tablets four times daily. In other cases, 1 or 2 tablets every four to six hours. Bottles of 100 and 1,000.

NOTE: Nitranitol is exceptionally stable, assuring uniform potency, so important in medication for your hypertensives.

*Each contains mannitol hexanitrate 32 mg. and phenobarbital 16 mg.

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PIONEER IN MEDICINE FOR OVER 125 YEARS

THE WM. S. MERRELL COMPANY New York • CINCINNATI • St. Thomas, Ontario

PHOTOGRAPH BY VICTOR KEPPLER

Penicillin—that she can *drink*

PENALEV®

SOLUBLE TABLETS POTASSIUM PENICILLIN G

Readily soluble in familiar liquids—milk, infant formulas and juices—PENALEV meets no objections from young patients. Especially convenient for the "year-round penicillin prophylaxis" of rheumatic fever.[1]

Effective in all infections where oral penicillin is indicated, PENALEV's solubility makes dosage regulation easy. Useful for prescription compounding and for aerosol therapy.

Quick Information: *Supplied* in soluble tablets of 50,000, 100,000, 200,000, 250,000, 500,000 and 1,000,000 units of potassium penicillin G each. Dosage according to severity of infection.

Reference: 1. J.A.M.A. 151:347, 1953.

MODERN CONTENTS

Volume 22
Number 19

MODERN MEDICINE

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Acceptance under section 34.64, P. L. & R., authorized.

MEDICINE
for October 1, 1954

Walter C. Alvarez
Editor-in-Chief

●

THE MAN ON THE COVER is Dr. Charles C. Higgins of Cleveland, Surgeon and Head of the Department of Urology at the Cleveland Clinic. Dr. Higgins is a past president of the American Association of Genito-Urinary Surgeons and the American Urological Association. He is a frequent contributor to both American and foreign medical journals and author of *Renal Lithiasis*. A special article by Dr. Higgins, "Significance of Hematuria," appears on page 81.

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CONTINUED

Contents for October 1 1954

Business Manager: M. E. Herz. Address all correspondence to 84 South 10th Street, Minneapolis 3, Minn. Telephone: Bridgeport 1291. ADVERTISING REPRESENTATIVES: New York 17: Lee Klemmer, Bernard A. Smiler, John Winter, 50 East 42nd Street, Suite 401. Telephone: Murray Hill 2-8717. CHICAGO 6: Jay H. Herz, Hugh T. Gibson, 20 North Wacker Drive, Suite 1921. Telephone: Central 6-4619. SAN FRANCISCO 4: Duncan A. Scott & Co., Mills Bldg. Telephone: Garfield 1-7950. LOS ANGELES 5: Duncan A. Scott & Co., 2978 Wilshire Blvd. Telephone: Dunkirk 8-4151.

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Disposable Unit

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Each single unit of 4½ fl. oz., contains in each 100 cc., 16 Gm. sodium biphosphate and 6 Gm. sodium phosphate, . . . an enema solution of Phospho-Soda (Fleet), gentle, prompt, thorough—and as effective as the average enema of one or two pints.

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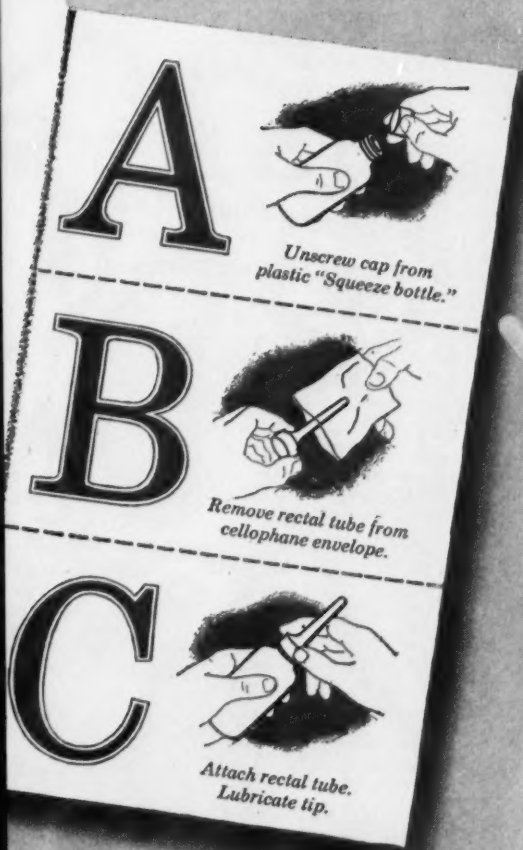
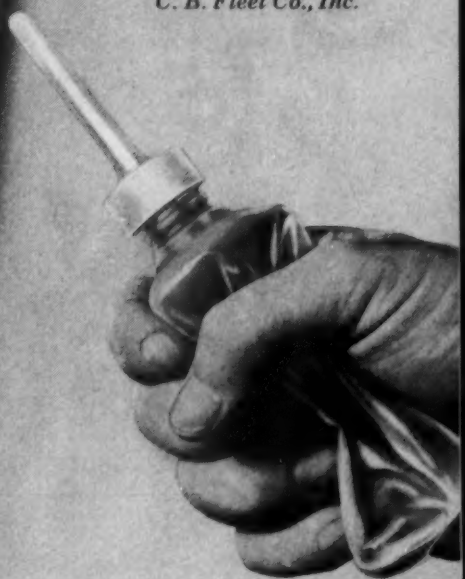




MODERN MEDICINE

Therapeutic Index

for October 1, 1954

THIS INDEX, prepared for your convenience, lists all advertised products in this issue. Specific information on each product will be found on the pages listed.

in postpartum care

multiple sulfonamides
for maximum effectiveness

reduces morbidity
lessens discomfort
eliminates odor

Triple Sulfa Cream
TRADE MARK

in postpartum care
in nonspecific leukorrhea
after cervical conization

Ortho

Some of the very best people use

VI-PENTA

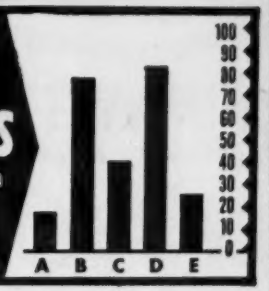
Pleasant orange-tasting Vi-Penta Drops supply required amounts of A, C, D and principal B-complex vitamins for people of growing importance. Add to other liquids or give by the drop directly from the bottle. In 15, 30, and 60-cc vials with calibrated dropper, *dated* to insure full potency.

VI-PENTA® HOFFMANN-LA ROCHE INC • ROCHE PARK • NUTLEY 10 • NEW JERSEY

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

graphic results in **PSORIASIS** treated with **RIASOL**



A series of resistant psoriatics who had not responded to other drugs were treated with **RIASOL.** The graphs show the results in comparison with the general experience of dermatologists.

A—Remissions with other drugs, 16½%.
B—Improvement with **RIASOL,** 76%.
C—Eradication of lesions by **RIASOL,** 38%.
D—Failures with other drugs, 83½%.
E—Failures with **RIASOL,** 24%.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.

MAIL COUPON TODAY—TEST RIASOL YOURSELF

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Please send me professional literature and generous clinical package of RIASOL.

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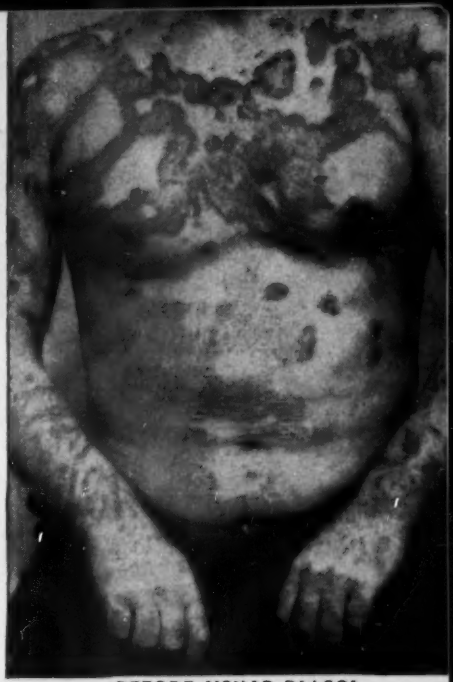
City..... Zone... State....

Druggist..... Address.....



BEFORE USING RIASOL

AFTER USING RIASOL

RIASOL FOR PSORIASIS

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

LETTER FROM THE EDITORS

Dear Reader:

It's always open season on politicians and editors. Last night we were reading a piece on magazine writing. The author, a magazine writer, of course, dredged up the oldie about the editor being a fellow who knows exactly what he wants but can't tell you what it is.

The worst of it is that the author is right. The editors—*Modern Medicine* editors, at least—are looking for perfection. Who can define that? It is a goal that we can only approach, never reach. The quest is an exhilarating one, however, and our readers do appreciate the efforts that come close to the mark.

From N.Y.—I like the pictorial reporting and Dr. Alvarez' free-style editorials.

From Ill.—You always bring material to my attention which I ordinarily would not have access to.

From Calif.—You provide me with the most direct and intimate contact with clinical medicine.

From N. Mex.—The practicality you inject into the writings is most commendable.

From Ariz.—I like the intensive reviews and the references to up-to-date treatment.

From N. J.—The pro's and con's of medical, surgical, and obstetric treatments are brought to light in the "Forum" discussions for the general practitioner and the specialist.

From Mass.—No other publication in American medical literature attacks subjects from the same point of view.

From Tenn.—A convenient and accurate means to keep abreast of the literature.

Thank you, thank you. Your words of encouragement help us greatly. We are not satisfied with the job we are doing, but it is nice to get a pat on the back when we come close to the goal.

The Editors

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Arthritis and Tonsillectomy

TO THE EDITORS: I cannot let go unchallenged the comment on tonsillitis and arthritis in the Questions and Answers department (*Modern Medicine*, Aug. 1, 1954, p. 32). The questioner asked the wrong question. What the questioner really needs to know is the diagnosis, after which management is usually self evident.

It is hard to defend the proposition that localized chronic infection of the palatine tonsils exists as a primary disease, at least in a 59-year-old woman. It is unthinkable to proceed with removal of the tonsils without knowing what kind of arthritis one is dealing with. Tonsillectomy is meddlesome and could be dangerous in unsuspected lupus erythematosus or synovial tuberculosis.

When a patient has a genuine local infection, such as a periodontal abscess, it must be treated on its own merits. If, in addition, the patient has rheumatoid arthritis which undergoes a spontaneous remission, such temporary improvement may not be credited to the removal of the tonsils or teeth.

SEDGWICK MEAD, M.D.
Vallejo, Calif.

Aid to Cancer Knowledge

TO THE EDITORS: You have done a wonderful service to medicine and aided advancement of cancer knowledge by publishing the article by Dr. Francesco Ronchese (*Modern Medicine*, Aug. 1, 1954, p. 80).

I have been in touch with details of cancer detection under the Wood light, and so have been able to watch Dr. Ronchese's technic develop. I think that he has something which is of great diagnostic importance. By publishing this article, *Modern Medicine* has rendered the profession a great service.

ANTHONY C. CIPOLLARO, M.D.
New York City

Complications of Anesthesia

TO THE EDITORS: The usual complications seen in anesthetized patients are nonspecific in relation to the agents or method used. A frequent cause of these disorders, occurring in various combinations, is the presence or movement of nonrespirable masses which stimulate trigger areas within the air passages, such as vomitus or chronic mucopurulent accumulations. Prema-

for new, safe,
nausea-free,
vomiting-free
comfort in pregnancy

prescribe **Bonadoxin***

BRAND OF MECLIZINE HCl, PYRIDOXINE HCl

tablets

New combination attacks nausea and vomiting of pregnancy on two planes:

The Symptomatic Plane—Bonadoxin contains meclizine—the safe, longer-acting antiemetic with highly specific vestibular effects.

The Metabolic Plane—Bonadoxin contains pyridoxine—the enzyme-essential vitamin for which requirements are markedly increased during the first trimester. Its presence in high dosage helps restore proper carbohydrate metabolism, glycogen storage and hepatic function, thus correcting physiological derangements associated with "morning sickness."

Clinical results[1]: Abolished vomiting in 40 of 41 gravid women, eliminated nausea in 30 of 41. Less than 3% side effects. **Dosage:** 1 or 2 tablets, at bedtime. Larger doses if necessary. **Supplied:** Bottles of 25, prescription only. Each Bonadoxin Tablet contains 25 mg. meclizine hydrochloride, 50 mg. pyridoxine hydrochloride.

1. Garrett, T. A.: Personal communication.

*TRADEMARK

Ethical Pharmaceuticals for Needs Basic to Medicine
536 Lake Shore Drive, Chicago 11, Illinois

Mrs. OB needs a nutritional buildup? Prescribe OBRON*—calcium, iron, plus 8 vitamins, 8 other important minerals.

turely introduced endoscopes or endotracheal tubes often cause reflex phenomena.

Reflex effects include sneezing, coughing, coma, convulsions, hiccupping, apnea, belching, vomiting, transient or terminal cardiac dysfunction, and spasms of the masseter muscles, bronchi, or alveoli. This group of disorders has been termed the "aspiration syndrome." It is common in the operating room, because general anesthesia produces a hypernoia varying in intensity with the speed of induction.

Complications should be avoided by very deliberate induction, producing for the duration of the operation the essential state of hyporeactivity. Furthermore, spinal or general anesthesia, by relaxing the upper sphincters of the digestive tract, especially when the patient is recumbent, admits gastric content to the pharynx.

Solutions containing local anesthetics that are introduced into the respiratory tract constitute irritant masses per se and, like radiopaque solutions, can evoke grave or fatal reflex reactions.

The common complications of anesthesia are not toxic effects. They are not seen in laboratory animals killed by overdosage with anesthetic drugs. When these disorders arise during anesthesia, further administration of the drug after removal of the irritant does not

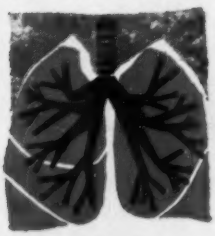
(Continued on page 24)

A low incidence of side effects and extremely low toxicity make ELKOSIN a sulfonamide preparation of relatively high therapeutic safety

ELKOSIN®

(sulfisomidine CIBA)

a highly soluble single sulfonamide



ELKOSIN is highly soluble and has a wide range of antibacterial activity. No alkalization is necessary.

ELKOSIN is indicated in sulfonamide-susceptible urinary infections, respiratory infections, meningococcal meningitis and streptococcal infections.

ELKOSIN is available in tablets, 0.5 Gm. (double-scored); bottles of 100, 500 and 1000. For pediatric use, Elkosin Syrup, a strawberry-flavored Suspension in Syrup, 0.25 Gm. per 4-ml. teaspoonful; pints.

CIBA
SUMMIT, N. J.

3/ 331434

MERELY SKIN-DEEP

"obesity...may predispose its victims to heart disease, diabetes, liver disease, and other complications."[1]

A progressive organic deterioration occurs in overweight persons, which is of far greater medical significance than the more obvious outward changes in appearance.

SYNDROX® HYDROCHLORIDE

METHAMPHETAMINE HYDROCHLORIDE, McNEIL

—suppresses the appetite and thus helps to prevent over-eating in the obese patient.

—imparts a feeling of well-being in the obese patient who otherwise overeats to satisfy frustrated "cravings."

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

5 mg. tablets (scored, green); pleasant-tasting elixir (amber)—each 30 cc. (1 fl. oz.) containing 20 mg. Samples supplied on request.

1. Armstrong, D. B., Dublin, L. I., Wheatley, G. M. and Marks, H. H.: Obesity and its Relation to Health and Disease, J.A.M.A. *147*:1007 (Nov. 10) 1951.

PHILADELPHIA 32, PENNSYLVANIA

reproduce them. These manifestations of the aspiration syndrome also occur in those not under the influence of drugs, such as swimmers who aspirate a few drops of water, patients with inflammatory masses and tracheotomy tubes in their respiratory passages, asthmatic persons with bronchial plugs, and babies who have tracheoesophageal fistulas or who aspirate their milk.

M. G. BAGGOT, M.D.

St. Louis

Plea for Trade Names

TO THE EDITORS: Almost daily, in reading medical literature, I am confronted by something which makes me "see red." The irritant is the use of chemical names for drugs without giving the trade name so that we remain unable to use the product in our practice. What in the wide world does dihydroxyhexachlorodiphenylmethane or 10 (3-dimethylaminopropyl)-2-chlorphenothiazine hydrochloride mean to thousands of physicians throughout the country who take time to read medical articles?

ERNEST A. KAHN, M.D.

Cheyenne, Wyo.

NOW the safest agent yet developed for decisive control of BLOOD PRESSURE with 5 important firsts

UNITENS

brand of cryptenamine

Unitensen is recommended for the patient who needs more than tranquilizing effects. It produces positive, sustained falls in blood pressure.

This is what Unitensen Tablets do . . . and with unparalleled safety

Summary of Case Histories-Series A*

Age—Sex	BP—mm. Hg. BEFORE	BP—mm. Hg. AFTER
64—M	190/115	140/90
37—M	200/130	130/85
48—M	230/140	140/100
46—M	220/140	160/110
41—M	210/140	155/110
43—M	200/120	160/110
26—M	230/130	180/120
44—M	220/130	175/120
46—M	220/120	162/90

These patients experienced sustained control of blood pressure levels over prolonged periods of time.

(Write for complete clinical data, including case histories.)

*Personal communication to Irwin, Neisler & Company.

FIRST IN MAINTAINING DECISIVE BLOOD PRESSURE CONTROL

The sole therapeutic agent in Unitensen Tablets is cryptenamine—a potent blood pressure lowering alkaloid fraction isolated by the research staff of Irwin, Neisler & Company. In the majority of cases (see chart at left), cryptenamine will lower blood pressure decisively, and will control blood pressure at the lower levels for prolonged periods of time.

FIRST IN SAFETY

Unitensen Tablets exert a central action on the blood pressure lowering mechanism. Circulatory equilibrium is not disrupted. Improved circulation and improved work of the heart are often attained, *along with the decisive fall in blood pressure.*

Unitensen Tablets have no sympatholytic or parasympatholytic action. Ganglionic blocking does not occur. Unitensen Tablets *do not* cause postural hypotension and collapse, an ever-present risk with other potent blood pressure lowering drugs. Renal function is *not* impaired.

FIRST WITH DUAL ASSAY

Unitensen is biologically standardized twice, first for hypotensive response and, second, for side effects (emesis) in the dog so that a safe therapeutic range between the two is assured. In extensive clinical trials only a few isolated cases exhibited occasional vomiting.

Unitensen Tablets do not cause the serious side effects common to widely used synthetic hypotensives. Unitensen Tablets can be given over long periods of time with entire dependability. Cumulative effects have not been noted.

FIRST IN SIMPLE DOSAGE

Start with 2 tablets daily, given immediately after breakfast and at bedtime. If more tablets are needed, include an afternoon dose at 1 or 2 p.m.

FIRST IN ECONOMY

Because of lower dosage, Unitensen Tablets save your patients ⅓ to ½ over the cost of other potent blood pressure lowering agents.

Each Unitensen Tablet contains: Cryptenamine* (as the tannate salt) . . . . . 2 mg.†

*Ester alkaloids of Veratrum viride obtained by an exclusive Irwin-Neisler nonaqueous extraction process. †Equivalent to 260 Carotid Sinus Reflex Units.

IRWIN, NEISLER & COMPANY DECATUR, ILLINOIS

EN®

TANNATE TABLETS

Bottles of 50, 100, 500 and 1000.

Penicillin Prophylaxis

TO THE EDITORS: The gonococcus and *Treponema pallidum* are both extremely susceptible to penicillin. The Navy, applying close supervision to a naval unit, found that 250,000 units of crystalline penicillin G orally, or potassium, calcium, or sodium salts protected against gonorrhea. If an oral penicillin tablet, used for gonorrhea, can protect against the gonococcus, a larger dosage tablet of penicillin or a bismuth tablet plus a penicillin tablet of sufficient dosage would be effective against *T. pallidum*; or a combined intramuscular injection, given soon enough, would effectively bar the entrance of both *T. pallidum* and the gonococcus.

For success in penicillin prophylaxis, civilian V. D. prophylactic stations are necessary. These stations should be open twenty-four hours a day. At the end of one year, sufficient information on prophylaxis could be gathered, so that the United States could be a place free of venereal disease if all citizens were checked, and those infected with either gonorrhea or syphilis were legally forced to accept treatment.

The stations would be available to both male and female. At present, no method of prophylaxis at such little inconvenience or expense is available to the female. I feel certain more women would take prophylaxis if more information

a new word in medical practice...

*TRADEMARK

It's a new long-acting agent for the prevention and treatment of nausea and vomiting, associated with all forms of motion sickness, radiation therapy, vestibular and labyrinthine disturbances, and Ménière's syndrome.

Side effects, so often associated with the use of earlier remedies, are minimal with Bonamine. Its duration of action is so prolonged that often a single daily dose is sufficient. Bonamine is supplied in scored, tasteless 25 mg. tablets, boxes of eight individually foil-wrapped and bottles of 100.

PFIZER LABORATORIES, Brooklyn 6, N.Y.
Division, Chas. Pfizer & Co., Inc.

were given to the public through our doctors.

By keeping our heads buried in the sand, we are like the proverbial ostrich. What we need is to raise our heads, look forward to the next horizon, and conquer the problem we see facing us.

MARC MAGILL, M.D.
Atlantic City

Doing Important Job

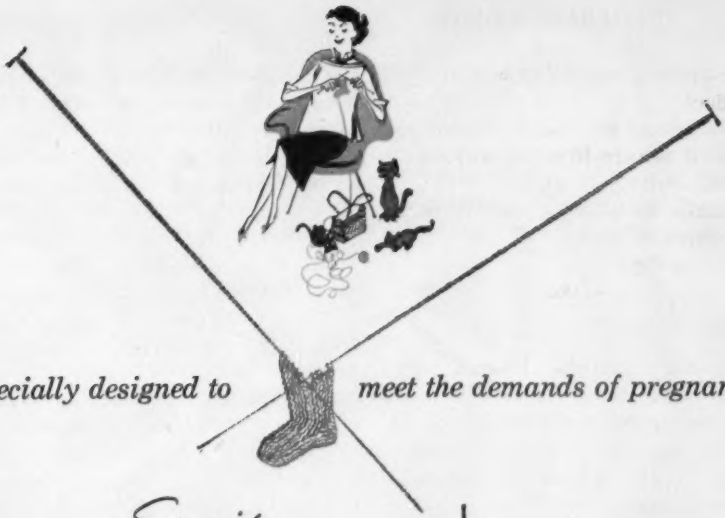
TO THE EDITORS: Thank you for the reprints of the article by Dr. Leonard H. Biskind, "Modern Perineal Hygiene" (*Modern Medicine*, June 15, 1954, p. 128). Congratulations on the outstanding job that *Modern Medicine* does in disseminating important medical information.

GERALD N. WEISS, M.D.
Lake Charles, La.

Sky Hook in a Scrap Bag

TO THE EDITORS: So nice to read your editorial: "Go Easy on the Unusual Single Case" (*Modern Medicine*, July 1, 1954, p. 74). It recalls a statement attributed to Osler: Common diseases occur commonly; rare diseases occur rarely!

The reverse was expressed by the late Fred Wise, one time my mentor in dermatology. He taught that the trained dermatologist finds the



especially designed to *meet the demands of pregnancy*

Specify

PRENATAL CAPSULES LEDERLE

It's that last word which assures your patient the Lederle formula.

One to three Prenatal Capsules daily protect both mother and child against vagaries of appetite or dietary intake which can result in anemia, avitaminosis and calcium deficiency.

Odorless and burpless, each capsule contains:

Vitamin A	2,000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine HCl (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Niacinamide	7 mg.
Vitamin B_{12} as present in concentrated extractives from streptomyces fermentation	1 microgram
Vitamin K (Menadione)	0.5 mg.
Ascorbic Acid (C)	35 mg.
Folic Acid	1 mg.
Calcium (in $CaHPO_4$)	250 mg.
Phosphorus (in $CaHPO_4$)	190 mg.
Dicalcium Phosphate Anhydrous ($CaHPO_4$)	869 mg.
Iron (in $FeSO_4$)	6 mg.
Ferrous Sulfate Exsiccated	20 mg.
Manganese (in $MnSO_4$)	0.12 mg.

(The need for manganese in human nutrition has not been established.)

Packaged in bottles of 100 and 1,000

Lederle

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

rare disease in the scrap bag labeled eczema!

The man with the sky hook is the man for whom diseases are named!

HERMAN GOODMAN, M.D.
New York City

Unfair to Medical Veterans

TO THE EDITORS: It was with some interest that I read the item in a leading medical journal urging that all group I and II and younger group III physicians be commissioned at the present time.

For myself, and I believe that I am speaking for many of the medical veterans, I think that it is unfair to protect further the older group III physicians who have established practices. Who has a greater debt to the country than the physician in the 40 to 50 age group who has been deferred in two wars —World War II and the Korean War? It is my feeling that these men, many of whom beg out of service on the basis of physical disability and yet carry on the largest practices without difficulty, should be drafted *now* before they reach 50 and their liability to service ceases.

If another war breaks out, the older group III physicians will undoubtedly again escape their obligation.

J. GORDON BEATON, M.D.
Northfield, Minn.

THE FAMILY ALBUM OF

LILLY VITAMINS

Lilly

OPTIMAL NUTRITION DURING PREGNANCY

'Prenalac'

(Prenatal Nutritional Supplements, Lilly)

Six pulvules provide *complete* daily vitamin and mineral allowances as recommended by the Food and Nutrition Board of the National Research Council. Gay-colored pink-and-blue pulvules quickly win patient acceptance.

DOSE: 3 to 6 pulvules daily, as indicated. In bottles of 100, 500, and 1,000.

Lilly

BEST FOR BABY

'Vi-Mix Drops'

(Multiple Vitamin Drops, Lilly)

No other pediatric vitamin is so stable. Delicate moisture-labile vitamins are sealed *powder-dry* in a separate bottle to assure full potency the day of use. Another container provides the more stable vitamins—A, D, pyridoxine hydrochloride, pantothenic acid, and nicotinamide—in the orange-flavored vehicle. To constitute, simply empty the vehicle into the bottle containing the powder and shake gently. Note especially the high B_{12} and ascorbic acid content. This is the product to specify for the critical early months of rapid growth.

each 0.6 cc. provides:

Thiamin Chloride	1 mg.
Riboflavin	1 mg.
Pyridoxine Hydrochloride	0.5 mg.
Pantothenic Acid (as Sodium Pantothenate)	3 mg.
Nicotinamide	10 mg.
Ascorbic Acid	75 mg.
Vitamin B_{12} (Activity Equivalent)	3 mcg.
Vitamin A Synthetic	5,000 U.S.P. units
Vitamin D Synthetic	1,000 U.S.P. units

DOSE: Under 6 months—0.3 cc. daily.
Over 6 months—0.6 cc. daily.
In 30-cc. and 60-cc. sizes.

FOR GROWING TOTS

'Homicebrin'

(Homogenized Multiple Vitamins, Lilly)

The original homogenized multiple vitamin product. Homogenized for easy absorption, taste-tested for flavor. Children love it.

Lilly

each teaspoonful (5 cc.) provides:

Vitamin A (Palmitate)	3,000 U.S.P. units
Thiamin Chloride	1 mg.
Riboflavin	1.2 mg.
Vitamin B_{12} (Activity Equivalent)	3 mcg.
Ascorbic Acid	60 mg.
Vitamin D	1,000 U.S.P. units

DOSE: Prophylactic—1 teaspoonful daily.
Therapeutic—2 to 4 teaspoonfuls daily.
In 60-cc., 120-cc., and pint bottles.

FOR FINICKY 'TWEENAGERS

'Multicebrin' Jr.

(Pan-Vitamins, Lilly)

Something different and more "grown-up" than drops or teaspoons, 'Multicebrin' Jr. is tailored for potency, size, and color for the 5-to-12-year age group—the busiest lunch-gulpers on earth.

DOSE: Usually 1 gelseal daily. In bottles of 60 and 1,000.

each gelseal provides:

Thiamin Chloride	1.5 mg.
Riboflavin	2 mg.
Pyridoxine Hydrochloride	1 mg.
Pantothenic Acid (as Calcium Pantothenate)	2.5 mg.
Nicotinamide	12 mg.
Vitamin B_{12} (Activity Equivalent)	3 mcg.
Folic Acid	0.1 mg.
Ascorbic Acid	75 mg.
Alphatocopherol (as Alphatocopheryl Succinate)	5 mg.
Vitamin A Synthetic	5,000 U.S.P. units
Vitamin D Synthetic	500 U.S.P. units

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DOSE: Usually 1 gelseal daily. In bottles of 100 and 1,000.

each gelseal provides:

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Riboflavin	3 mg.
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Nicotinamide	25 mg.
Vitamin B_{12} (Activity Equivalent)	3 mcg.
Folic Acid	0.1 mg.
Ascorbic Acid	75 mg.
Distilled Tocopherols, Natural Type	10 mg.
Vitamin A Synthetic	10,000 U.S.P. units
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A potent, comprehensive dietary supplement. 'Mi-Cebrin' provides eleven essential vitamins plus ten minerals in a special laminated tablet which insures stability of all ingredients. Designed especially for the patient past forty, 'Mi-Cebrin' affords both broad and adequate therapy.

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Pyridoxine Hydrochloride	3 mg.
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Nicotinamide	150 mg.
Vitamin B_{12} (Activity Equivalent)	10 mcg.
Folic Acid	0.33 mg.
Ascorbic Acid	150 mg.
Distilled Tocopherols, Natural Type	25 mg.
Vitamin A Synthetic	25,000 U.S.P. units
Vitamin D Synthetic	1,500 U.S.P. units

DOSE: 1 or more gelseals daily.

In bottles of 30, 100, and 500.

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: A middle-aged white man has a cold abscess in the left inguinal region which extends up the left lumbar gutter to the region of the left kidney but does not involve the kidney. Tubercle bacilli has been isolated from direct smear. The lungs are not diseased and the patient feels well. Therapy has included dihydrostreptomycin and isoniazid. Should para-aminosalicylic acid be added to the treatment? Should exercise be restricted?

M.D., Ohio

ANSWER: *By Consultant in Tuberculosis.* The spine should be investigated most carefully since cold abscesses which point in the inguinal region very frequently are the result of tuberculosis of the spine. Complete roentgen examination of the spine often demonstrates one or more lesions responsible for the tuberculous abscess.

In such cases, chemotherapy alone is not adequate. Dihydrostreptomycin and isoniazid should be continued, and strict bed rest should be enforced.

Surgical intervention may or may not be necessary, depending upon the size and location of the lesion. An orthopedic surgeon, specially qualified in tuberculosis of the spine, should be consulted before surgery is done.

QUESTION: After cesarean section, a number of cases of breathing difficulties with pulmonary involvement have occurred in newborns. Is this more common after cesarean sections done under spinal anesthesia? Is nitrous oxide and oxygen preferable? What procedure is employed to reduce the possibility of the baby's aspirating amniotic fluid?

M.D., Massachusetts

ANSWER: *By Consultant in Anesthesiology.* We have observed this same difficulty in newborns after cesarean section.

Many pediatricians and obstetricians are of the opinion that the type of anesthesia is not responsible. Some believe that the normal labor does something to the babies which promotes normal breathing.

In our practice we have seen this breathing difficulty after cesarean section in babies who have been delivered after spinal as well as general anesthesia.

If nitrous oxide were to be used, one would have to be very careful to eliminate the danger of anoxia. Usually some other agent which would assure adequate oxygenation would be advisable.

ANSWER: *By Consultant in Obstetrics.* The use of nitrous oxide and oxygen to anesthetize the pa-

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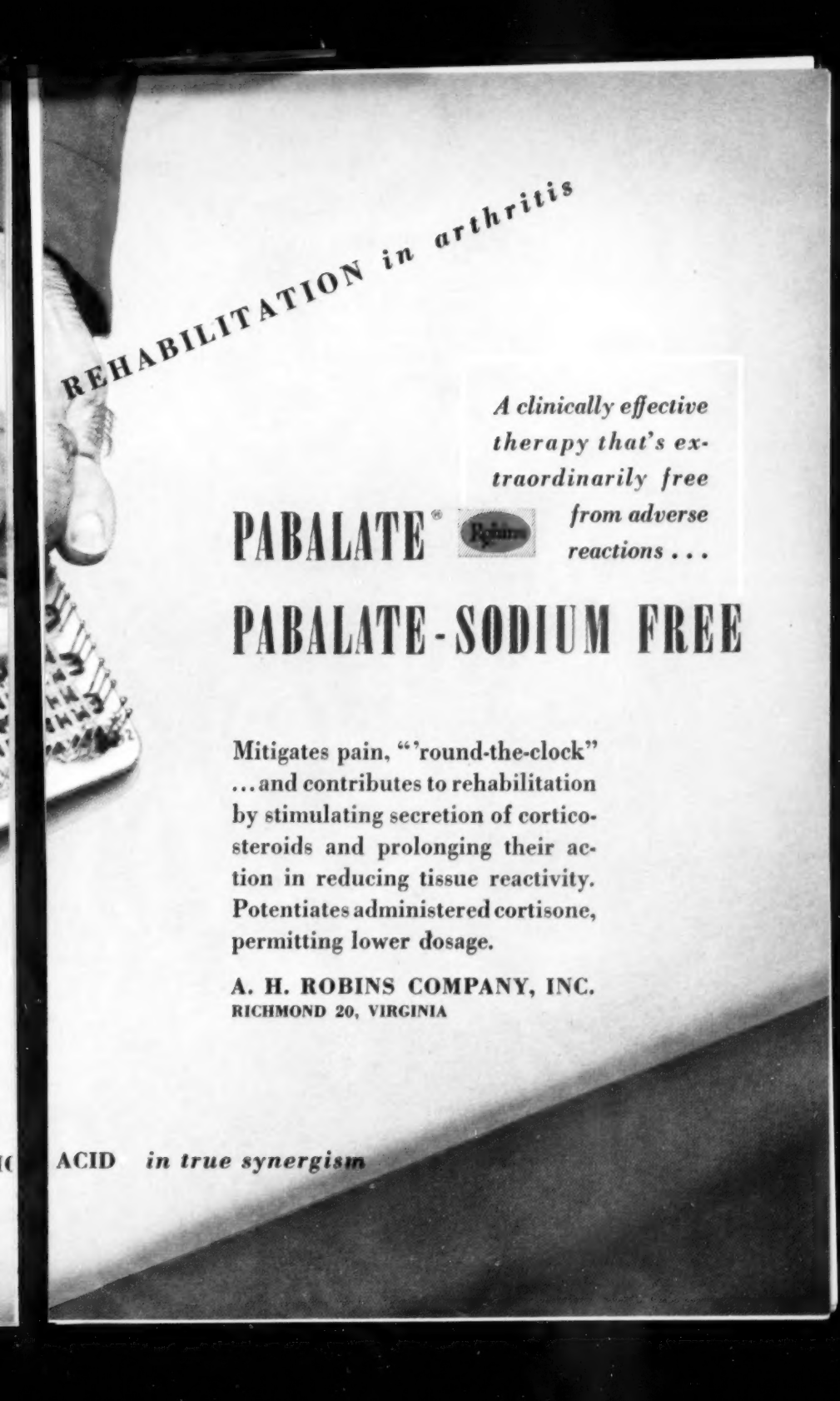
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Hyoscine Hydrobromide	0.0066 mg.
Phenobarbital (¼ gr.)	16.2 mg.

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tient before delivery will, because of the slowness of induction and the poor oxygen supply to the fetus, increase the likelihood of asphyxia neonatorum.

Stopping the anesthesia and switching to oxygen would not benefit the baby unless a waiting period sufficient to eliminate the anesthesia and allow the oxygen to get through were permitted. This delay may be hazardous to the mother because uterine bleeding is not as easily controlled during cesarean section. Most obstetricians prefer to give intravenous ergot immediately after delivery to clamp down the uterus and control the bleeding. If ergot is given, the oxygen would not likely reach the infant.

Since the cause of hyaline membrane of the newborn is not known, the effect of management of the baby at the time of cesarean section in reducing this complication is difficult to determine.

My preference for the management of cesarean section babies is the use of local infiltration anesthesia until the peritoneum is opened followed by intravenous Pentothal and oxygen anesthesia. As soon as the fetal head is delivered, the cord is clamped immediately after stripping. The fetal pharynx is aspirated with a soft rubber bulb. If aspiration of amniotic fluid is apparent, the stomach is evacuated to prevent later aspiration of regurgitated material.

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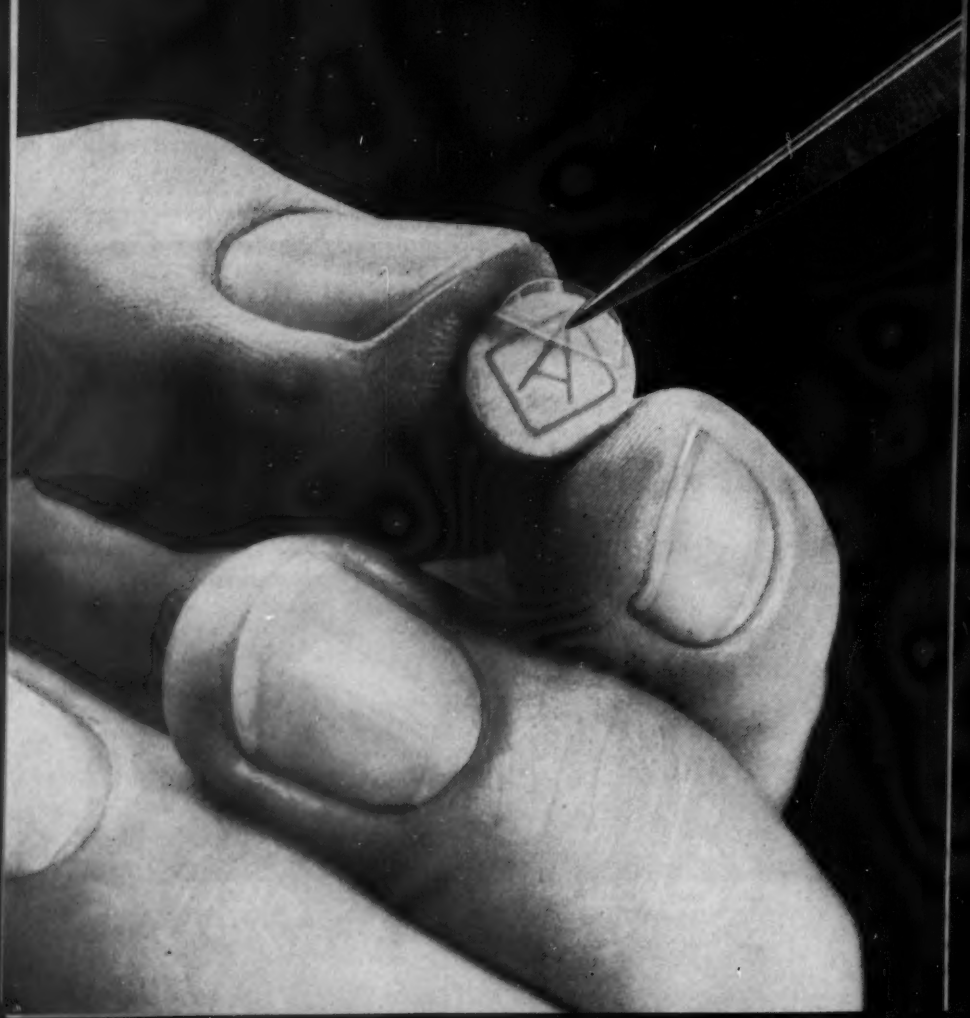

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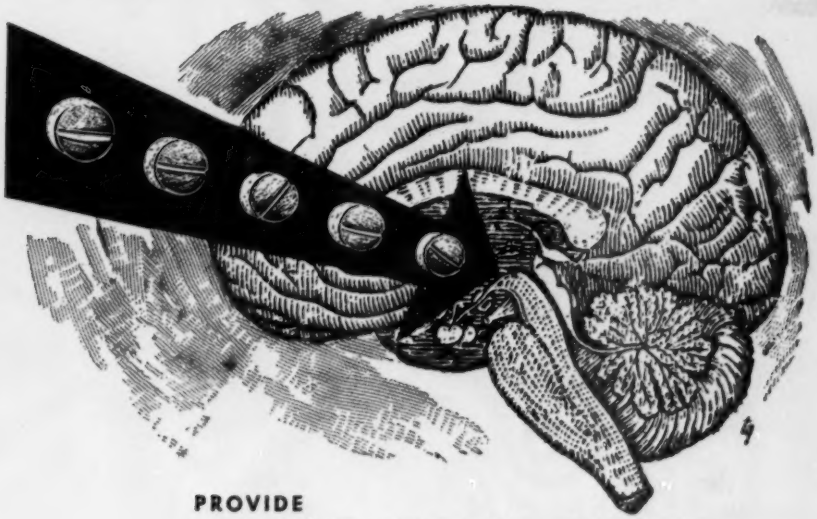

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Causative Factors of Refractory Skin Disease in Industry

GEORGE E. MORRIS, M.D.
Tufts College, Boston

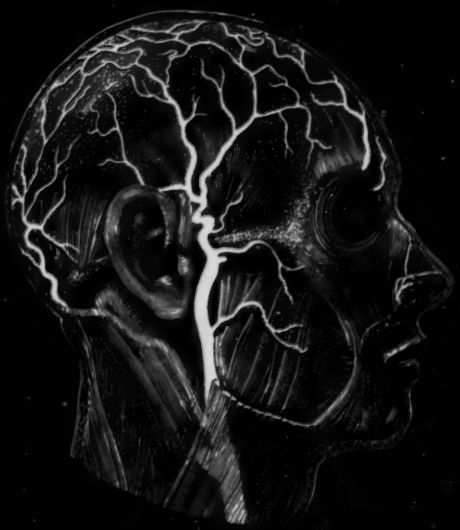
*Although most patients with industrial skin eruptions improve after cessation of exposure to offending agents, some individuals require additional prolonged treatment.**

FAILURE of the industrial patient to recover from occupational skin disease after what is considered to be appropriate therapy may be due to one or more of several reasons.

- The patient may fail, inadvertently or deliberately, to follow the physician's advice. Occasionally, an individual willfully induces a flare-up of the eruption by contact with harmful agents in order to obtain disability compensation.
- Quite often, overtreatment with several ointments results in increase in sensitization and continuance and spread of dermatitis. Application of so-called protective creams after an eruption occurs also should be avoided. Severe acute dermatitis usually subsides with compresses, calamine lotion, and other simple measures.
- The dermatologist may allow the patient to continue working in the hope that, by continued exposure, immunity to the offending factor will be built up. Severe dermatitis

(Continued on page 44)

*Why doesn't the worker's skin clear up? Arch. Indust. Hyg. 10:43-49, 1954.



Clinical results with one of the most effective hypotensives

Improvement in 79% of patients with hypertensive headache[1]

In addition to the desired reductions in excessive blood pressure in an average of 80 per cent of patients,[1,2] Methium therapy may result in striking relief of the ominous and disabling headaches common to hypertension.[1] For example, headache was relieved in 30 of 38 patients in one study involving 120 hexamethonium-treated patients.[2]

With continued management, up to or beyond a year, blood pressure has been reduced and stabilized, and cardinal symptoms arrested or reversed, without any increase in dosage.[1]

As blood pressure is reduced, and even without reduction, hypertension symptoms have regressed. Retinopathy may disappear; headache, cardiac failure and kidney function may improve.

Methium, a potent autonomic ganglionic blocking agent, reduces blood pressure by interrupting nerve impulses responsible for vasoconstriction. Because of its potency, careful use is required. Pretreatment patient-evaluation should be thorough. Special care is needed in impaired renal function, coronary disease and existing or threatened cerebral vascular accidents.

Literature and samples will be sent promptly if requested.

References:

1. Moyer, J. H.; Miller, S. I., and Ford, R. V.: J.A.M.A. *152*:1121 (July 18) 1953.

2. Moyer, J. H.; Snyder, H. B.; Johnson, I.; Mills, L. C., and Miller, S. I.; Am. J. M. Sc. *225*:379 (April) 1953.

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in anemia therapy—

The rapidly expanding volume of clinical research continues to prove the effectiveness and safety of Roncovite in the common forms of anemia.* These clinical studies of the effect of cobalt-iron have produced gratifying results in several types of anemia.

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- anemia in pregnancy
- anemia in infants and prematures

Cobalt in therapeutic dosage exerts a specific erythropoietic effect on the bone marrow. Roncovite provides the supplemental iron to meet the need of the resulting accelerated hemoglobin formation.

— *and from 1954 clinical reports*

"We agree with Waltner (1930) and Virdis (1952) that iron should be given together with cobalt to obtain the most satisfactory results."[1]

"Evidence suggests that iron and cobalt provide the most effective hematinic for pregnant women."[2]

"The babies were closely observed daily for ill effects of the medication while at the premature unit and when they returned for check-ups. None of them showed harmful effects despite the large doses.'[3]

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Each enteric coated, red tablet contains:

Cobalt chloride ..... 15 mg.
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Each 0.6 cc. (10 drops) provides:

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(Cobalt .... 9.9 mg.)
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Calcium lactate ..... 0.9 Gm.
Vitamin D ..... 250 units

DOSAGE

One tablet after each meal and at bedtime; 0.6 cc. (10 drops) in water, milk, fruit or vegetable juice once daily for infants and children.

***Bibliography of 192 references available on request.**

1. Coles, B.L., and James, U.: The Effect of Cobalt and Iron Salts on the Anaemia of Prematurity, Arch. Disease in Childhood *29*:85 (1954).
2. Holly, R.G.: The Value of Iron Therapy in Pregnancy, Journal-Lancet *74*:211 (June) 1954.
3. Quilligan, J. J., Jr.: Effect of a Cobalt-Iron Mixture on the Anemia of Prematurity, Texas St. J. Med. *50*:294 (May) 1954.

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may develop which will take much longer to treat than if the patient had stopped working when the skin eruption first made an appearance.

• Diagnosis made the first time a patient is seen by a dermatologist may be incorrect. Many eruptions are due to factors that are in no way connected with the job of the patient.

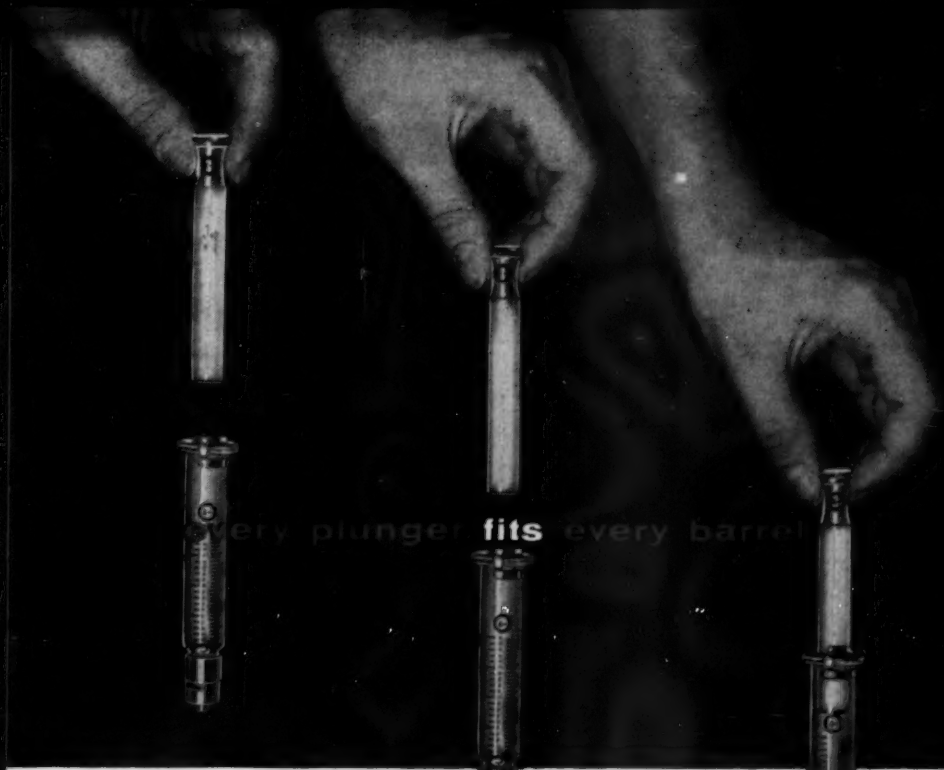
• A secondary bacterial infection of the occupational eruption may occur. Treatment with iced compresses and triple sulfonamides is often beneficial in such cases.

• Use of antibiotics may cause a vesicular eruption of the hands superimposed on secondarily infected contact dermatoses. Similarly, dermatitis may disappear during treatment with steroid hormones only to reappear when medication is stopped.

• Persisting fungous infections of the feet may be undetected by the examiner. Such a dermatophytosis must be completely eradicated before the hands will become amenable to therapy.

• Unforeseeable or unavoidable exposure to the sensitizing agent in any form, including clothing that is saturated with the offending substance, may be the cause of persistence or acute exacerbations of dermatitis.

• Serious nervous upsets, such as family illness or death, may cause



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a recurrence of a skin eruption. Occasionally, a worker is discharged when a rash appears and is not rehired after the eruption clears. In such cases, the rash may reappear despite the fact that the individual does not contact the original sensitizer.

- A patient may be treated by more than one physician, and a conflict may result between medications and instructions, causing symptoms to worsen rather than subside.
- Patch tests may cause skin eruptions and should not be used.
- An existing skin disease may be accentuated by an occupational factor; for example, psoriasis may be intensified after trauma.
- Excessive heat or cold, previous allergies, or vitamin deficiencies may prevent dermatitis from subsiding.

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*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

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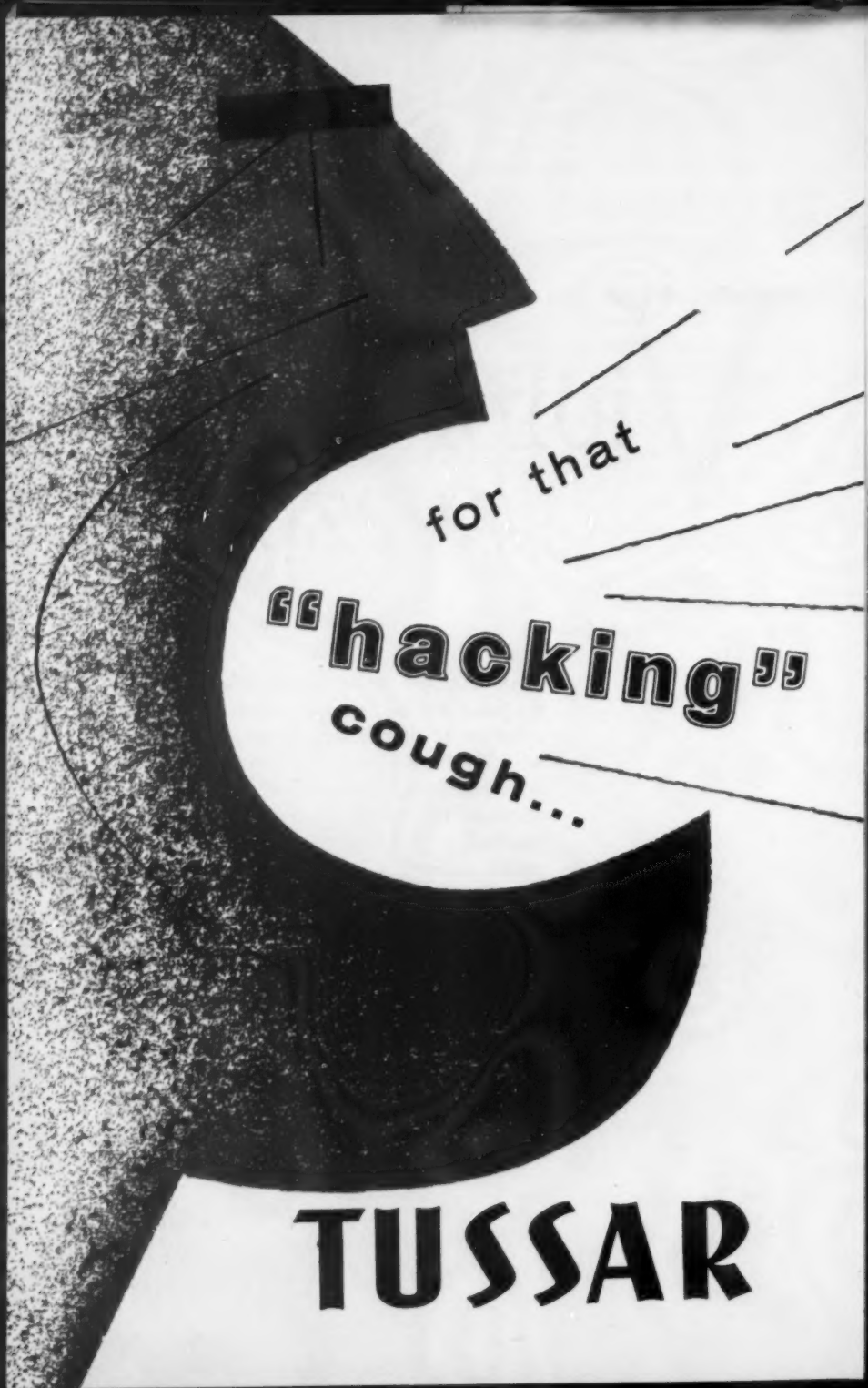
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Potassium Guaiacol Sulfonate, N.F..8 gr.
Sodium Citrate, U.S.P.....13.2 gr.
Citric Acid, U.S.P.....2 gr.
Prophenpyridamine Maleate.....1 gr.
(10 mg./teasp., 5 cc. medicinal)
Chloroform, U.S.P.....2 minims
Methyl Paraben, U.S.P.....0.1%
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SUPPLIED in 16 oz. and 1 gal. bottles.

DOSAGE: ADULTS: 1 teaspoonful three or four times per day as indicated for cough; not to exceed 6 teaspoonfuls per 24 hours. CHILDREN 6 to 12: ½ to 1 teaspoonful three times per day as indicated for cough; not to exceed 3 teaspoonfuls per 24 hours. CHILDREN under 6: ¼ to ½ adult dose under the physician's supervision; not to exceed three doses per day.

If desired, either ammonium chloride, potassium iodide, or ephedrine can be added to Tussar.

*Of dihydrocodeinone bitartrate, Banyai states: "...it has a prompt antitussive action without interfering with the expectoration of inflammatory products." (J.A.M.A. 148: 501, 1952).

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through the skin faster than solids, and solutions in oily or hydrocarbon solvents are more actively absorbed than dry preparations.

In general, chlorinated hydrocarbons are central nervous system stimulants which cause hyperexcitability, irritability, loss of equilibrium, clonic-tonic convulsions, and loss of appetite. Depression sometimes occurs.

Treatment consists of thorough cleansing of the skin with soap and water. Benzene, gasoline, or carbon tetrachloride should be avoided. Ingested material should be removed by lavage and saline laxatives. Sedation is essential, preferably with sodium phenobarbital, phenobarbital, or pentobarbital, although paraldehyde or urethan is effective also. Fairly large doses may be used, but sedation should counteract excitability, not induce sleep. Intravenous calcium gluconate may be used with barbiturates.

Organic phosphates are also absorbed through the skin and gastrointestinal and respiratory systems; ingestion is particularly dangerous. The agents are irreversible inhibitors of cholinesterase and allow accumulation of large amounts of acetylcholine. The symptoms occur when cholinesterase depletion is severe, and recovery is complete if the patient can re-form the enzyme quickly enough.

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(Continued on page 56)

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* Choy, D. S. J.: Clinical trials of a new plastic dressing for burns and surgical wounds. A.M.A. Arch. Surg. 68:33-43 (Jan.) 1954

headache, giddiness, blurred vision, weakness, nausea, cramps, diarrhea, and chest discomfort. Sweating, miosis, salivation, pulmonary edema, cyanosis, papilledema, convulsions, coma, and loss of reflexes and sphincter control occur. Onset may be rapid.

Intravenous atropine should be administered at once, 1 to 2 mg. per hour up to 10 or 20 mg. daily. Morphine, theophylline, and aminophylline should not be given. Decontamination should be done with soap and water as soon as systemic symptoms subside. If ingestion is suspected, emesis is induced with a neutral substance. Postural drainage should be used if pulmonary secretions accumulate.

The use of an oxygen tent or positive pressure oxygen may be needed. Muscular weakness and the need for artificial respiration may appear abruptly.

The acute emergency lasts twenty-four to forty-eight hours, and the patient must be observed carefully during this time. Favorable response to 1 or more doses of atropine does not guarantee against sudden and fatal relapse.

Among the *hydrocarbon solvents,* deodorized kerosene and xylene commonly are used in insecticides. The skin and eyes are particularly likely to be irritated by the agents.

Therapy involves thorough washing and use of Butyn ointment in the eyes and an analgesic ointment on the skin. Ingested solvent should be removed by gastric lavage. Saline laxatives may be used. Further therapy includes sedatives or stimulants, chemotherapy to prevent bacterial invasion, and a low-fat, high-protein diet to lessen liver damage.

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1945 CONCEPT	Biochemical synergism—hesperidin and ascorbic acid—need of *both* compounds as the "KEY TO CAPILLARY HEALTH."[1]
1946 ARTHRITIS	Pronounced capillary fragility present even with high plasma vitamin C content. Action of hesperidin and ascorbic acid, combined, much greater than either alone, to decrease abnormal capillary fragility.[2]
1947 CONCEPT PROVEN	Hesperidin and ascorbic acid increase capillary resistance by inhibition of hyaluronidase action. Combination of bioflavonoid and ascorbic acid markedly potentiates this inhibitory action.[3]
1948 DIABETIC RETINOPATHY	Improvement—cessation of further bleeding; absorption of exudates and hemorrhages.[4]
1948 PSORIASIS	Hesperidin with ascorbic acid more effective than latter drug alone to decrease capillary permeability and increase capillary resistance.[5]
1948 RHEUMATOID ARTHRITIS	Hesperidin essential for absorption and retention of vitamin C—action synergistic to maintain normal capillary resistance which may enhance efficacy of other therapeutic measures.[6]
1949 DIABETES HYPERTENSION	Capillary fragility in all patients with plasma vitamin C levels above adequate. Despite inadequate dosage, capillary fragility decreased, including one hypertensive with azotemia.[7]
1949 DIABETES ARTHRITIS HYPERTENSION	Within 9 weeks all diabetic patients had normal petechial index. Four of 6 arthritic patients showed objective improvement.[8] Of 50 hypertensive patients, 40 had a normal petechial index within 8 weeks, remaining normal on maintenance dose over a period of 10 months.[8]
1949 RHEUMATOID ARTHRITIS	Prognosis good with correction of capillary fragility by use of Hesperidin-C in adequate doses and other physical, nutritional and occupational therapy.[9]
1950 HYPERTENSION ARTERIOSCLEROSIS ARTHRITIS ANEMIA GINGIVITUS OBESITY	Vitamin C important to maintain integrity of capillary intercellular substances; hesperidin essential as catalyst to combine vitamin C with protein fraction to form this substance.[10]
1951 PERMEABILITY FACTOR	Inhibition of hyaluronidase by the bioflavonoid with resulting decreased permeability of the cell.[11]
1953 EDEMA	Hesperidin-C reduced edema and improved nutrition and function in 22 of 24 (91%) of patients with inoperable or recurrent carcinoma of intra-abdominal origin.[12]
1953 ABORTION	More than 80% of OB patients with history of habitual abortion have high petechial indices.[13]
1954 SYNERGISM	Hesperidin and ascorbic acid. Naturally occurring synergists—bioflavonoids, hesperidin, ascorbic acid.[14]
1954 ABORTION	In 100 OB cases prone to habitual abortion, "before" and "after" treatment results with Hesperidin-C follow: Spontaneous abortions fell from 95.2% to 11.9%; premature and full-term deliveries rose from 3.6% to 87.3%; therapeutic abortion fell from 1.1% to 0.3%.[15]
1954 ABORTION	In pregnancies in patients with repeated *late* abortions, Hesperidin-C permitted 50% to go to full term with normal, living babies. Dosage was only 400 to 600 mg. each of hesperidin and ascorbic acid daily.[16]

NATIONAL

References 1-16: Annotated bibliography on ORIGINAL RESEARCH on hesperidin and ascorbic acid in combination is available on request.

THE NATIONAL DRUG COMPANY *Philadelphia 44*

"In my service, young man, no degree of acuteness of intestinal obstruction justifies opening up an abdomen so long as molasses enema has not yet been tried."

Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author sent $5. The Oct. 1 winner is

M. G. Andreassian, M.D.
Dallas

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.

Meets
U.S.P. SPECIFICATIONS FOR VITAMIN B_{12} WITH INTRINSIC FACTOR CONCENTRATE
1 U.S.P. Unit in recommended daily dosage

Plus
75 MCG. OF B_{12}
(In addition to 1 U.S.P. Unit in recommended daily dosage)

PATTERNED AFTER
*Spies' Basic Formula**
Provides Vitamin C, Folic Acid, Thiamine, Riboflavin, and Nicotinamide, in addition to increased amounts of B_{12}
*Spies, T. D.: J.A.M.A. 145:66 (Jan. 13) 1951.

"CLUSINTRIN"

Potent Hematinic for effective, practical Antianemia Therapy

Each capsule contains:

Vitamin B_{12} with intrinsic factor concentrate	0.33 U.S.P. Unit
Vitamin B_{12} U.S.P. (crystalline)	25.0 mcg.
Folic acid U.S.P.	1.67 mg.
Vitamin C (ascorbic acid)	50.0 mg.
Thiamine mononitrate (B_1)	3.34 mg.
Riboflavin (B_2)	3.34 mg.
Nicotinamide	50.0 mg.
Ferrous sulfate exsic.	200.0 mg.

No. 316 — Supplied in bottles of 100 and 1,000.

Indications: Treatment of pernicious anemia and other macrocytic hyperchromic anemias; microcytic hypochromic anemia.

Recommended dosage: 1 capsule three times daily, or as required. Preferably taken after meals.

Ayerst

AYERST LABORATORIES • New York, N. Y. • Montreal, Canada

5419

The ORIGINAL alseroxylon fraction of Rauwolfia

Because... Rauwiloid is not a single alkaloid. It contains, besides reserpine, a number of active alkaloids, for example rescinnamine, reported to be more hypotensive but less sedative than reserpine.

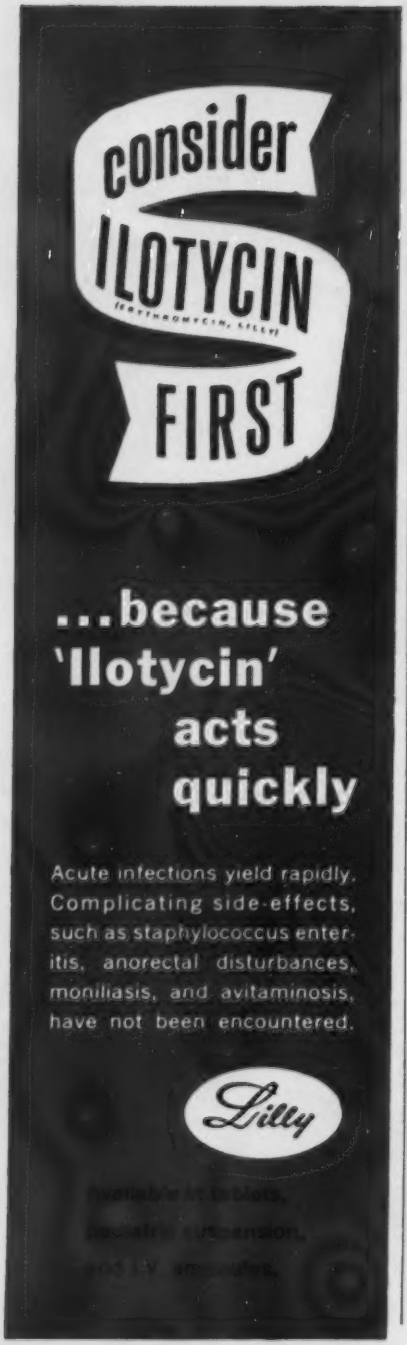
Because... Rauwiloid is freed from the inert dross of the whole root and from undesirable alkaloids, such as yohimbine-type alkaloids.

Because... Rauwiloid alone or in combination with more powerful hypotensive drugs* can be depended upon for even fewer side actions, greater constancy.

*Rauwiloid + Veriloid in a single tablet for moderately severe hypertension.

*Rauwiloid + Hexamethonium in a single tablet for rapidly progressing, intractable hypertension.

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.



High sustained salicylate levels with maximum safety

A-C-K TABLETS

Whenever it is desirable to maintain large doses of salicylates, there is always the possibility of serious toxic reactions which may include hemorrhagic symptoms—a factor highlighting the importance of A-C-K Tablets (G. F. Harvey).

This formula combines Aspirin with Vitamins C and K to guard against hemorrhage and other toxic manifestations which often follow massive doses of salicylates.

Each tablet contains:

Acetylsalicylic Acid
333 mg. (5 gr.)

Ascorbic Acid
33.3 mg. (½ gr.)

Menadione
0.33 mg. (1/200 gr.)

Dosage:

Two tablets every two hours or as directed by physician

A-C-K literature and sample available on request

A development of the Wisconsin Alumini Research Foundation

G. F. HARVEY CO.

(Home of Saratoga Ointment)
Saratoga Springs, N.Y.,
Dallas, Texas

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: A sickness benefit policy covered some diseases but not their complications. A doctor testified that the active period of a beneficiary's lobar pneumonia was twelve days, but the patient had diminishing illness for several weeks afterwards. Was the beneficiary entitled to benefits during the recuperative period?

COURT'S ANSWER: Yes.

The Missouri Court of Appeals decided that recuperation was not a complication but a part of the illness (193 S.W. 2d 343).

PROBLEM: A railroad employee accepted $200 in release of his claim for injuries to his back, relying on the railroad doctor's statement that his back had only been bruised and that he would fully recover within three or four weeks. Within that time the injuries became more painful and it was disclosed that the employee had sustained vertebral injuries. Was the release voidable on the ground of misrepresentation by the doctor?

COURT'S ANSWER: Yes.

The Minnesota Supreme Court said that the release was voidable on the ground of mutual mistake as to the nature of injuries sustained by the employee. Had the doctor accurately diagnosed the patient's injury and disclosed the diagnosis to him, the release would not have been invalidated by an inaccurate prophecy as to when recovery would occur (62 N.W. 2d 374).

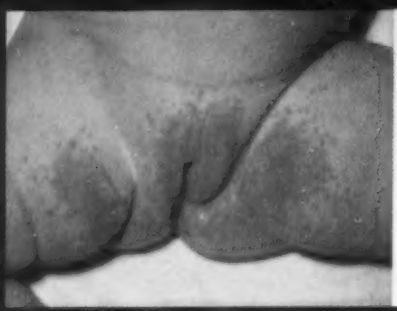
PROBLEM: Except when a physician furnishes drugs to a patient in treating him, does his status as a doctor relieve him from the necessity of registering as a pharmacist before he may lawfully retail drugs or compound prescriptions?

COURTS' ANSWERS: No.

The Michigan Supreme Court decided that a physician, not registered as a pharmacist, has no more right than any other person to compound or sell drugs, medicines, or poisons to one not a patient. This was so even if the physician was as competent as a registered pharmacist. The court noted that a physician cannot even practice medicine lawfully without registration as such (86 Mich. 433, 49 N.W. 263).

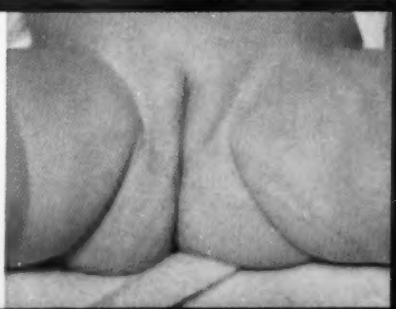
However, the Appellate Division of the New York Supreme Court decided that it was not unlawful for a doctor, who had an office in a drugstore in which he had no interest, to occasionally fill prescriptions of other practicing physicians. But the court said that the law prevented physicians not registered as pharmacists from engaging in the business of pharmacy for themselves or others (21 App. Div. 146, 47 N.Y. Supp. 1149).

Gratifying Response in Diaper Rash



A typical case of diaper rash before treatment, characterized by excoriation and soreness.

After only one week of local applications with White's Vitamin A and D Ointment at each diaper change, the skin surface is normal. The soothing, protective and healing action of White's Vitamin A and D Ointment is the reason why it is used so extensively in this condition.

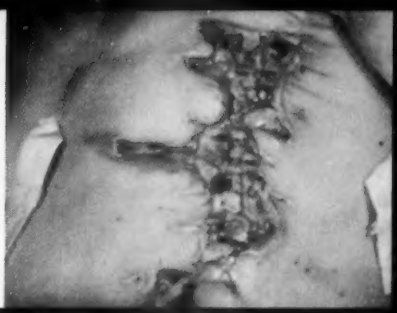


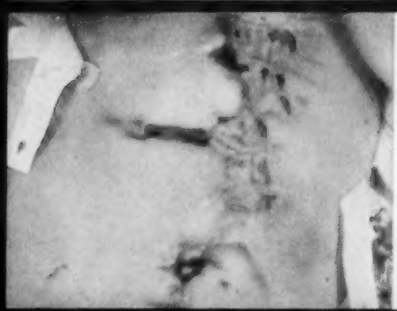
White's Vitamin A and D Ointment

—supplied in 1½-oz. tubes and 16-oz. jars for office use; 5-lb. jars for hospital use.

...and Equally Valuable in Severe Conditions

6 days after radical mastectomy, the defect is filled with postage-stamp grafts, and application of White's Vitamin A and D Ointment begins.





After only 14 days of therapy with White's Vitamin A and D Ointment, solid healing of the postage-stamp grafts has taken place.

Other Indications:

sunburn . . . burns . . .

traumatic lacerations . . .

bedsores . . . abrasions . . .

chafing . . . fissured nipples . . .

indolent ulcers

White's Vitamin A and D Ointment presents the natural A and D vitamins in a pleasantly fragrant lanolin-petrolatum base. It does not stain the skin.

WHITE LABORATORIES, INC., KENILWORTH, N. J.

PROBLEM: Could a private hospital avoid liability for death of a mental patient who jumped from a second floor window because the patient's doctor, as a witness for the hospital, testified that he had decided that the patient was rational and did not have to be tied in bed or moved to another room?

COURT'S ANSWER: No.

The Tennessee Court of Appeals, Middle Section, said that the doctor's instructions or approval could not excuse neglect of the hospital to use reasonable care to protect the patient. Also, the doctor's testimony could have been discredited by the jury as having been given as a partisan of the hospital (261 S.W. 2d 151).

The court's decision was influenced by conclusions reached by the Nebraska Supreme Court in a similar case. The Nebraska court remarked that duties that a hospital owes to a patient cannot be evaded by proof that the hospital nurse obeyed the instructions of the physician employed by the patient (148 N.W. 582).

PROBLEM: When a physician certified that a subpoenaed witness was unable to attend court because of illness of his son, was the witness excused?

COURT'S ANSWER: No.

So decided the Texas Court of Criminal Appeals (71 S.W. 756).

These are the Gantrisin advantages —

Gantrisin 'Roche' is a single, soluble, wide-spectrum sulfonamide -- especially soluble at the pH of the kidneys. That's why it is so well tolerated...does not cause renal blocking...does not require alkalies. Produces high plasma as well as high urine levels. Over 250 references to Gantrisin® in recent literature.

—and these are the reasons for Gantricillin

It provides Gantrisin PLUS penicillin...for well-tolerated, wide-spectrum antibacterial therapy...in tablets of two strengths -- Gantricillin®-300 for severe cases; Gantricillin (100) for mild cases -- and in an easy-to-take suspension for children -- Gantricillin (acetyl)-200

'Roche.'

PROBLEM: State hospital psychiatrists released a mental patient in custody of his son after intermittent hospitalization. The patient reported at the clinic at brief intervals. About eight months after release, he stabbed a stranger to death. Was the state liable for damages on a theory that the psychiatrists had negligently diagnosed the patient's mental condition?

COURT'S ANSWER: No.

The New York Court of Claims decided that neither psychiatrists nor institutions are liable when errors in judgment are made after a careful examination (129 N.Y. Supp. 2d 92).

PROBLEM: When a workmen's compensation act requires that employers furnish injured employees with the medical and surgical aid deemed reasonable and necessary by the attending physicians, are workers entitled to splints, crutches, and artificial legs and eyes?

COURT'S ANSWER: Yes.

So decided the Connecticut Supreme Court of Errors (104 Atl. 488).

PROBLEM: An insurance policy indemnified a doctor against liability for malpractice by his assistants while they acted under the assured's instructions. Diagnosis and treatment of a patient's injuries were left wholly to an assistant in a certain case. The patient was awarded damages against the physician for malpractice by the assistant. Did the policy entitle the doctor to indemnity?

COURT'S ANSWER: No.

The Tennessee Supreme Court said that the policy implied that the doctor would exercise supervising skill and instruct the assistant in each particular case (132 Tenn. 673, 179 S.W. 312).

Washington LETTER

Health Insurance Proposed for Federal Employees

REGARDLESS of which party is in control of the next Congress, the federal government is almost certain next year to bring a million or more persons under health insurance of one type or another—hospital, surgical, medical, or catastrophic. The vehicle will be a new law authorizing deductions from federal payrolls for health insurance, and setting up machinery for negotiating the insurance contracts, the way employer-employee contracts now are handled by private industry.

Federal employment—not including the military services—fluctuates around 2.5 million. Perhaps a million now have no health insurance at all, and hundreds of thousands of others have inadequate protection. Because up to now the federal government has not helped its employees to set up plans, the pattern of coverage varies greatly from one location to another and within income brackets.

The best data show that slightly more than two-thirds of those with incomes of more than $5,000 have at least hospital insurance. In the $4,000 to $5,000 bracket, the figure drops to 66%. Those with incomes under $4,000 have the least protection. About half of the $2,000 to $4,000 group have hospital coverage, but the percentage drops to 25% for incomes below $2,000.

The spotty coverage picture—certainly the poorest for any large employer in the country—is inevitable because of all the obstacles. Now no payroll deductions of any kind are authorized. This necessitates the weekly or monthly collection of health insurance premiums individually with the collector usually doing it on his own time.

Furthermore, heads of government departments are not authorized to work out health insurance agreements to which the workers can subscribe.

Statistics for the country as a whole are in sharp contrast to the government's health insurance situation. Nearly 100,000,000 persons are covered by hospital insurance. Of these, 80% also have surgical insurance and about 40% also have insurance against physicians' charges.

Legislation to bring the government into line with private industry in this respect was a part of the Eisenhower health program proposed early in the last Congress. No specific legislation was introduced, however, until a week or so

(Continued on page 70)

Cortisone vs. Salicylate in Rheumatoid Arthritis

Latest clinical report proves cortisone no better than aspirin in the treatment of rheumatoid arthritis.

On May 29th, 1954, the Joint Committee of the Medical Research Council and Nuffield Foundation published a most significant finding on arthritis therapy—that "for practical purposes" there appears *"surprisingly little to choose between cortisone and aspirin."*[1]

"Sixty-one patients in the early stages of rheumatoid arthritis . . . have been allocated at random to treatment with one or other agent (cortisone 30 cases, aspirin 31 cases) . . .

"Observations made one week, eight weeks, thirteen weeks, and approximately one year after the start of treatment reveal that the two groups have run a closely parallel course in nearly all the recorded characteristics . . . joint tenderness, range of movement in the wrist, strength of grip, tests of dexterity of hand and foot, and clinical judgments of the activity of the disease and of the patient's functional capacity."[1]

These findings spotlight an earlier report that "aspirin in large doses has definite beneficial results closely akin to those received from ACTH."[2]

High gastric intolerance to aspirin noted among arthritics—a problem easily met by the use of BUFFERIN.

In this latest study, side-effects for both groups "were equal in the early months of treatment, but *became less in the aspirin group as time passed.*"[1]

Of clinical significance, however, is the high percentage of gastric intolerance to straight aspirin found among the arthritic patients—*42% as against 3 to 10% variously reported for the general population.*[3, 4]

Earlier investigations reveal the disadvantages of using sodium bicarbonate with aspirin—namely, the lowering of blood salicylate levels and the possible retention of the sodium ion.[2]

BUFFERIN *offers an answer to this problem.*

Unlike straight aspirin, BUFFERIN *is well tolerated, even in large doses.*[4]

BUFFERIN contains no sodium. It combines aspirin with two antacid and buffering agents which protect the gastric mucosa against irritation from salicylates – at the same time providing faster absorption of salicylates into the blood stream.

1. Brit. M. J. 1:1223 (May 29) 1954. 2. M. Times 81:41 (Jan.) 1953. 3. J. Am. Pharm. Assoc., Sc. Ed. 39:21, 1950. 4. Ind. Med. 20:480 (Oct.) 1951.

***BUFFERIN*® *should be used for the long continued salicylate dosage required by* ARTHRITICS**

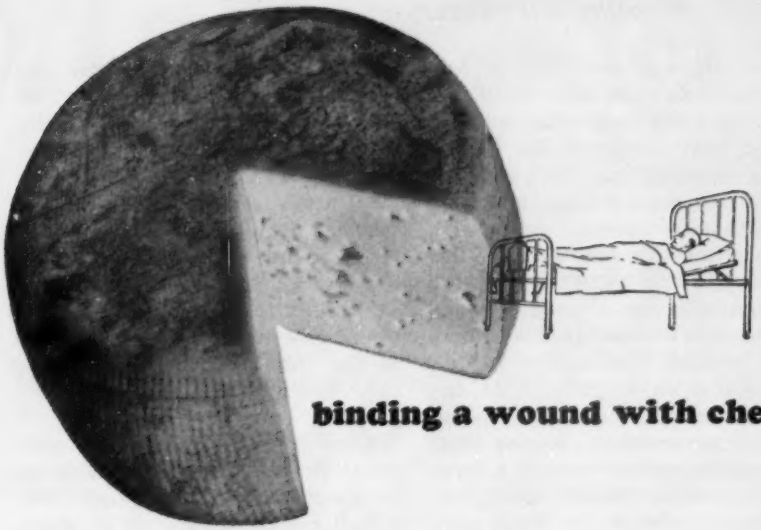
- **because BUFFERIN provides relief of arthritic pain without upsetting the stomach.**
- **because BUFFERIN's antacids effectively prevent gastric irritation and speed the absorption of BUFFERIN's analgesic ingredient.**
- **because BUFFERIN's antacids do not lower the blood salicylate levels, as does sodium bicarbonate.**

Each BUFFERIN tablet combines aluminum glycinate and magnesium carbonate with 5 grains of acetylsalicylic acid.

Available in vials of 12 and 36 tablets and in bottles of 100.

BUFFERIN
ACTS TWICE AS FAST AS ASPIRIN
DOES NOT UPSET THE STOMACH

BRISTOL-MYERS CO., 19 West 50 Street, New York 20, New York



binding a wound with cheese

A wound is as strong as the connective tissue that holds it together...and the maximum strength of a wound is reached more rapidly when the diet contains liberal amounts of protein for growth of connective tissue. [1]

Cheese, long recognized as an excellent and concentrated source of easily-digested milk protein, simultaneously provides generous amounts of calcium, phosphorus and other nutritionally important minerals and vitamins.

Cheese is likewise indicated for its high protein value in the geriatric diet[2] and whenever low tissue protein stores are suspected, not only in poorly healing wounds but also in patients with bed sores, chronic bullous diseases, atopic dermatitis, and senile pruritus.[3]

The wide variety of Borden cheeses lends itself to a diversified diet—from main dishes based upon popular Cheddar and Swiss or refreshing salads with soft Cottage or Cream cheese—to epicurean Camembert or Liederkranz Brand that add a tangy finish to the meal.

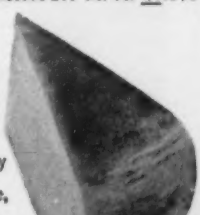
High palatability, pleasing texture and delicious flavor, characteristics of Borden cheeses, stimulate the appetite and contribute to greater eating enjoyment for both the convalescent and other members of the family.

Manufacturers and distributors of BORDEN'S Instant Coffee • STARLAC non-fat dry milk • BORDEN'S Evaporated Milk • Fresh Milk • Ice Cream • Cheese • EAGLE BRAND Sweetened Condensed Milk • BREMIL powdered infant food • MULL-SOY hypoallergenic food • BIOLAC infant food • DRYCO infant food • KLIM powdered whole milk

1. Baborka, C. J.: Treatment by Diet, ed. 5, Philadelphia, J. B. Lippincott Company, 1948, p. 607.

2. Sebrell, W. H., in Stieglitz, E. J.: Geriatric Medicine, ed. 2, Philadelphia, W. B. Saunders Company, 1949, p. 194.

3. Morgan, D. B.: J. Missouri M. A. 49:896 (Nov.) 1952.



The *Borden* Company
350 Madison Avenue,
New York 17, N. Y.

before adjournment. Then it was recognized that the bills could not be acted upon. After the opening of the next Congress, the Eisenhower administration has promised that it will press for enactment of the legislation.

Brief hearings were held by the Senate Post Office and Civil Service Committee in the summer. No opposition was discernible. The American Medical Association in the past had been hesitant about endorsing payroll deductions by the federal government, fearing that such action pointed toward a form of compulsory health insurance. This time, however, the AMA gave the proposal complete support.

The proposed legislation would [1] *require* each government department, bureau, or agency to work out for its employees a plan or plans for voluntary health insurance; [2] authorize the department heads to deduct from an employee's pay, but only on his request, the employee's share of the cost of health insurance; and [3] authorize a federal contribution equal to half the total cost of the insurance, but not to exceed $26 per year for each employee.

Once a series of insurance contracts had been made available to the employee, he would have complete freedom to purchase as much or as little as he wanted. He could restrict himself to the most limited

kind of hospital insurance offered through his department, or he could take several types, and protect himself against extremely high cost medical care by adding catastrophic insurance.

The bill wisely does not provide for a uniform national system of insurance. Instead, the responsible official in each area will work out the best and broadest system of insurance possible. He will thus fit the government employees into the local health insurance pattern, one that generally is the result of many years of experience and experimentation.

Chairman Philip Young of the Civil Service Commission, which will be in charge of the program at the national level, had this to say before the Senate Committee:

> The program is designed to benefit both the government and the employee. It would improve the level of employee health and efficiency by encouraging and assisting employees to provide themselves and their dependents with insurance protection against the risk of hospital and medical bills. The Federal government would gain through an increase in the level of the health, and thus, of efficiency of its employees. By giving employees relief from the fear and worry of heavy medical costs in serious illness, the empioyee morale would be improved.

Washington Notes

¶ The National Institutes of Health already have allocated more than

60% of all research grant money made available for the fiscal year starting July 1. The 1,442 awards total $14.6 million. Two-thirds of the money went to continue projects already under way. New projects are approved only after careful screening by study committees and groups. The surgeon general of Public Health Service has a veto over the grants, but seldom uses it.

¶ Among the minor medical bills enacted by the last Congress was one authorizing the Food and Drug Administration to set tolerances for pesticides; previously, there was no requirement for testing and tolerances, and FDA could act only after a pesticide was shown to remain on a food in dangerous quantities. The new law was worked out by FDA in cooperation with the pesticide industry.

¶ George P. Larrick is the new commissioner of the Food and Drug Administration, succeeding Charles W. Crawford, who has retired. Mr. Larrick, a veteran of FDA service, was educated at Ohio State University, Wittenberg College, and George Washington University, where he specialized in chemistry and biology.

¶ Federal employees now may be removed from their jobs after a finding of chronic illness, including mental illness. Previously, an "adjudication of insanity," much more difficult to obtain than a certification of chronic illness, was the only test.

¶ The Eisenhower administration has not given up efforts to promote a reinsurance program, despite the closing of Congress. White House and the Department of Health, Education, and Welfare people are

quietly attempting to win over to their cause some of the individuals and groups opposing the bill during the session.

¶ Under a new program, DHEW hopes to sponsor or conduct research in civil defense problems aimed at [1] developing mechanisms to test water and atmosphere, [2] producing a more rapid means of identifying substances and organisms that might be detected, and [3] finding improved methods for decontaminating buildings, grounds, and other sources of infection or poisoning. Responsibility for this work was transferred from the Federal Civil Defense Administration, which does not have a medical staff adequate to handle the research.

¶ Rep. George Long (D., La.), a dentist, made a desperate but futile fight in the House to give veterans more liberal consideration under a bill restricting Veterans Administration dental care. The bill—now a law—requires that in the first year after discharge the veteran must establish that his dental condition was a result of service. Congressman Long wanted this extended to a period of two years.

¶ Taxpayers are warned that under the new law drugs may not be counted as general medical expense. Instead, drugs will be deductible under a separate heading if they exceed 1% of adjusted gross income.

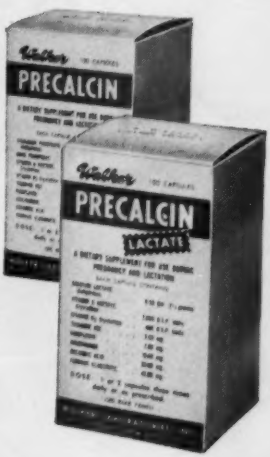
PRECALCIN® has a NEW baby sister PRECALCIN® LACTATE

Now you can have your choice for MINERAL-VITAMIN PROTECTION *during pregnancy and lactation*

If you favor dicalcium phosphate as a source of calcium, then prescribe PRECALCIN.

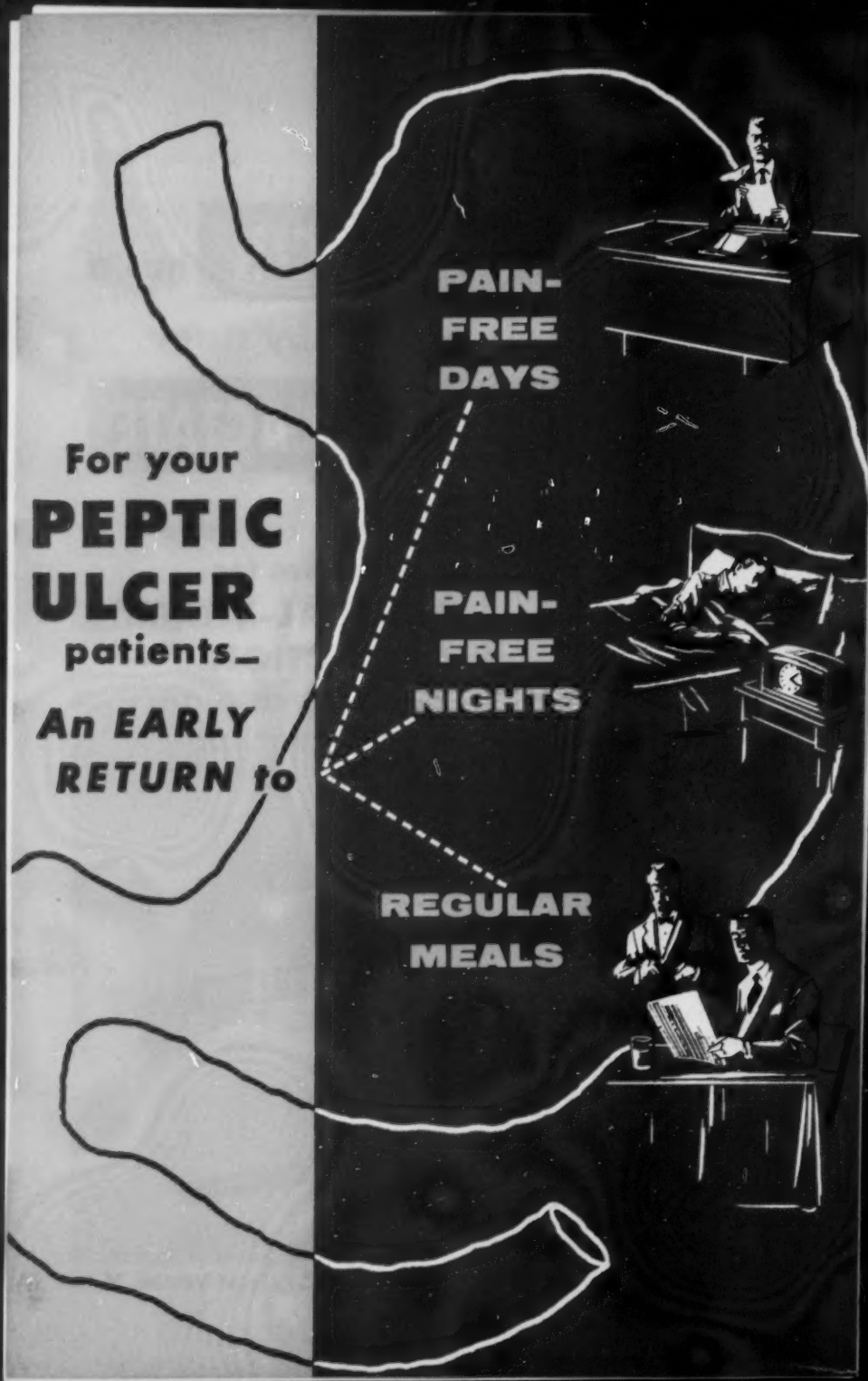
If you favor calcium lactate as a source of calcium (no phosphorus), then prescribe PRECALCIN LACTATE.

In the experience of many physicians, both PRECALCIN and PRECALCIN LACTATE have a definite and rational use during the all-important gestation and lactation periods. Both formulas are otherwise identical, and both are available in colorful, small capsules at the same low price.



Supplied: Bottles of 100 capsules.

Walker LABORATORIES, INC., Mount Vernon, N.Y.


For your
PEPTIC
ULCER
patients—
An EARLY
RETURN to
PAIN-
FREE
DAYS
PAIN-
FREE
NIGHTS
REGULAR
MEALS

SKOPOLATE

(SKŌ - PŌ - LATE) BRAND OF SCOPOLAMINE METHYL NITRATE

A Powerful New Parasympatholytic

CONVENIENT DOSAGE

Subcutaneously or intramuscularly, 0.5 to 1 cc will relieve ulcer pain within 15 minutes. Injections can be repeated every 8 hours.

Orally, one or two Skopolate 2 mg. tablets t.i.d. ½ hour before each meal; 1 or 2 Skopolate P.A.M. capsules t.i.d. 2 hours after each meal. To prevent nocturnal pain, 1 or 2 Skopolate D.A. tablets upon retiring.

SKOPOLATE is an extremely active parasympatholytic with marked specificity of action. Side effects are infrequent, making possible more effective ambulatory treatment for more patients.

Now available on prescription at leading pharmacies.
Write for complimentary supply.

SKOPOLATE
0.5 mg./cc.
Subcutaneous or intramuscular
10 cc. vial

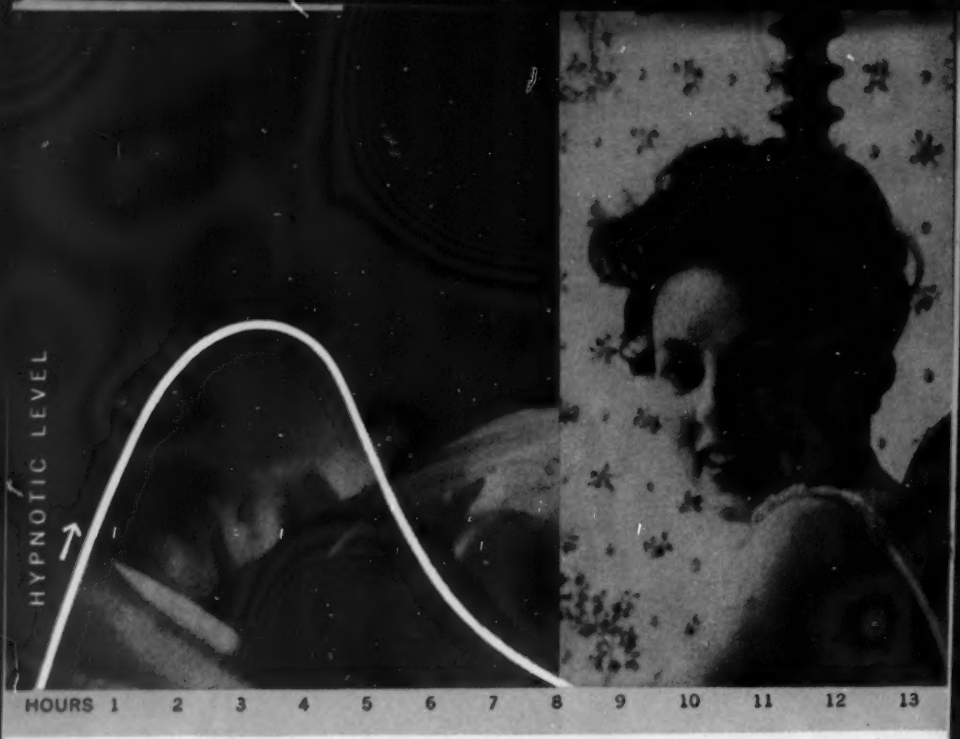
SKOPOLATE
2 mg.
parasympatholytic
EACH TABLET CONTAINS:
scopolamine methyl nitrate 2 mg.

SKOPOLATE
P.A.M.
parasympatholytic
antacid-mucigogue
EACH CAPSULE CONTAINS:
scopolamine methyl nitrate..1 mg.
aluminum hydroxide.....125 mg.
magnesium carbonate...12.5 mg.
sodium dodecyl sulphate.12.5 mg.

SKOPOLATE
D.A.
delayed action
EACH ENTERIC COATED TABLET CONTAINS:
scopolamine methyl nitrate 2 mg.

R. J. STRASENBURGH CO.
ROCHESTER 14, N.Y., U.S.A.

Strasenburgh
FOUNDED 1886



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Just as ETHOBRAL promotes undisturbed sleep, so it also leaves most patients free from morning drowsiness and depression. ETHOBRAL surrenders its sleep effects promptly . . . cleanly . . . once the night is over. Its *triple* barbiturate action induces sleep . . . sustains it . . . then dissipates quickly.

ETHOBRAL combines *judiciously balanced* amounts of secobarbital, butabarbital, phenobarbital. One capsule on retiring.

Each ETHOBRAL capsule contains:

Sodium Secobarbital	50 mg. (¾ gr.)
Sodium Butabarbital	30 mg. (½ gr.)
Phenobarbital	50 mg. (¾ gr.)

ETHOBRAL®

TRIPLE-BARBITURATE CAPSULES

Supplied: Bottles of 100 and 1000 capsules

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Philadelphia 2, Pa.

MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

Handling the Patient Who Thinks He Has Heart Trouble

Few diseases frighten a man so much as heart disease. Just let a man get a pain in what he thinks is his heart, or be turned down for life insurance, or hear the doctor describe an abnormality in the electrocardiogram, and he may become a badly frightened and panicky individual. Then, unless some wise doctor quickly reassures him, he may keep worrying. If he is hypochondriac by nature, he may spend his life going from one physician to another. In the worst of these cases of cardiac neurosis, the patient is slightly psychotic.

Cardiologists tell us that a high percentage of cardiac neuroses are produced by unwise statements of physicians. For instance, ten years ago, a man of 40 received some very disturbing news and became much upset. He was rushed to a hospital where electrocardiograms were made and a cardiologist was called in consultation. Nothing wrong could be found with the man's heart. However, the family physician was so sure that his patient must have had a "heart attack" and he was so anxious to play safe that he ordered drastic restriction of all the man's activities. The impact of this diagnosis and advice brought years of suffering. That the advice was wrong is evident from the fact that through the years the man has never shown any symptoms or signs of cardiac weakness.

No physician will ever cure cardiac neuroses so long as he hedges or keeps a line of retreat open for himself. If he can't find anything wrong with a man's heart, and if the fellow can walk rapidly along the street without distress, the doctor should say "Your heart is normal. Go ahead with your life as usual."

Often, the man one sees with great fear of heart disease got it the day when a friend or brother or uncle dropped dead. Having this information can help a physician greatly in making a diagnosis of neurosis.

Many of the men one sees who have recovered from a coronary attack are suffering only from fright and medically imposed restrictions, not from the little scar produced by the occlusion. Before they can be got back to work, they have to be convinced that their hearts are not seriously injured and that they are likely to live another ten years or more.

One type of man greatly needs intelligent help. He is the one who has been having attacks of typical angina pectoris due only to narrowing of a coronary artery. He has a normal electrocardiogram. What keeps him upset is that some physicians tell him that his electrocardiogram is perfectly normal and that he has no heart trouble; others tell him that he has had a thrombosis. Whom can he believe?

Usually a Master 2-step test will show the typical signs of a narrowed artery; then the man will know where he stands. The mechanism of his angina and the reasons for previous disagreements among doctors should be simply explained to the patient. Then he should be told to slow up the moment he feels the pain. Often a cardiologist will encourage such a man by telling him that the longer he lives with the narrowed artery, the less his chance of dying if the artery eventually plugs up. Why? Because by then a good collateral circulation should be established, which can greatly cushion the force of complete thrombosis if it comes.

Pentapyrrolidinium for Hypertension

Encouraging news has been announced by E. D. Freis, E. A. Partenope, and L. S. Lilienfeld of Washington, D.C., who have been using pentapyrrolidinium in treatment for hypertension. They reported on 27 patients who had been treated for from five to eight months.

The substance worked well in one-fifth the dose of hexamethonium and the effects lasted 40% longer. Tolerance and constipation were less apt to develop. The results after oral administration were more uniform and predictable. Ileus was not seen. Dosage of pentapyrrolidinium has to be adjusted carefully. The drug has been used also with other hypotensive agents.

Special Article

Significance of Hematuria

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Prepared for Modern Medicine

BLOOD in the urine, hematuria, is an alarming symptom that requires immediate investigation to determine the underlying causative factors. Unfortunately, in many instances it is considered a clinical entity and medication is prescribed before the initiating lesion is ascertained.

When associated with pathologic lesions involving the genitourinary tract, hematuria is frequently intermittent in character. A few days after blood is detected in the urine, the bleeding subsides spontaneously only to recur later at varying intervals of time. Blood in the urine may be the only symptom, and pain or discomfort may be strikingly absent, especially in the presence of neoplasms. When hematuria is associated with inflammatory lesions of the urinary tract, the predominating symptoms may be dysuria, frequency, and nocturia.

Because of the intermittent character of hematuria and the lack of other symptoms, the patient frequently minimizes its significance and, not being especially alarmed, does not seek medical counsel.

In other instances, the patient may consult the physician, complaining that he is passing blood in the urine or has had an episode of hematuria. When at the time of examination the urine reveals no gross hematuria, the physician may minimize the gravity of its occurence, deferring complete urologic survey. Such procrastination on the part of the physician cannot be justified. It cannot be overemphasized that when hematuria is or has been observed, the physician assumes the obligation and responsibility of proving beyond question that there is no serious organic lesion in the genitourinary tract.

In 1925, Kretschmer's report demonstrated that the importance of immediate and thorough investigation of hematuria was not appreciated—the importance of such investigation still is not appreciated today. In a review of 933 cases of hematuria, Kretschmer stated that the average duration of bleeding or the average time that elapsed between first appearance of blood in the urine and the time of diagnosis was 2.39 years. This figure compares with the average duration of 2.59 years in 1,600 cases

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of hematuria I reviewed a few years ago. In Kretschmer's series a tumor or new growth was the most frequent cause of bleeding. The next most frequent causes were calculi, tuberculosis, infection, and nephritis.

Rathbun, in reviewing the records of 203 patients with hematuria, stated that in 106, or more than 50%, a neoplasm was found in the genitourinary tract. Rathbun concluded that if every physician could be impressed with the fact that in 50% of all cases hematuria is caused by a tumor—a large majority of which are malignant or potentially malignant—it would do more toward reducing cancer mortality and morbidity than any other possible circumstance.

Doss in 1947 reviewed a collected series of 5,965 cases of hematuria. He concluded that inflammatory lesions, neoplasms, foreign bodies, tuberculosis, and trauma were the primary causes of bleeding, in that order of frequency.

Van Duzen stated that the presence of a few red blood cells in the urine was uncommon and was often the early warning signal of serious organic disease. In a review of 500 consecutive cases of macroscopic and microscopic bleeding, 319 patients, or 63.8%, required treatment other than medical. Red blood cells found in repeated specimens of urine may denote a pathologic lesion as grave or serious as that associated with gross hematuria. Obviously, in women the specimen of urine should be obtained by catheterization.

In the series of 1,600 cases of hematuria which I reported, infection, tumor, calculi, and nephritis were the most frequent etiologic factors. Such data emphasize the serious nature of hematuria and furnish evidence that its significance cannot be slighted. Hematuria associated with general disease cannot be disregarded.

Moore cited 2 cases of unilateral hematuria associated with hypoprothrombinemia. Of 14 individuals with idiopathic hypoprothrombinemia noted in the literature, 7 are reported to have had hematuria. Tidy and Morley in 1921, in a review of the records of 270 patients with infectious mononucleosis, stated that hematuria was noted in 6% of the cases. Goodwin, Alston, and Semans cited 4 cases of unexplained hematuria associated with the blood-sickling trait in Negroes.

Hematuria may also be observed following the administration of certain drugs. Nissen, Aagaard, and Flindt-Hansen, in a review of case records of 6,084 patients treated with sulfonamides, stated that chemically demonstrable bleeding was observed in 4% of the group; 34 patients had macroscopic bleeding, but none died of injury to the urinary tract; 2 patients had anuria, and 9 had oliguria.

Statistical data pertaining to carcinoma of the bladder further emphasize that the clinical significance of hematuria is misunderstood. Hematuria is the presenting symptom in 85 to 90% of patients with bladder tumors. In spite of this warning, an accurate diagnosis is established in only 10.8% within one month after the onset of bleed-

ing, 32.1% within five and one-half months, and 51.7% within one year. It is thus evident that in 48.3% of patients with tumors of the bladder, malignant or potentially malignant, over a year elapses before the growth is detected.

As hematuria may be associated with general disease, lesions of the genitourinary tract, or extraurinary tract pathology, an outline to be followed in the investigation of patients having blood in the urine is advisable. The tabulation given below classifys hematuria and lists the most important causes.

CLASSIFICATIONS AND CAUSES OF HEMATURIA

1] Hematuria associated with systemic disease and general conditions

Acute fever
- Scarlet fever
- Rheumatic fever
- Tonsillitis
- Measles

Chronic infection
- Endocarditis (renal infarction)
- Malaria

Blood dyscrasia
- Hemophilia
- Polycythemia vera
- Purpura hemorrhagica
- Leukemia
- Sickle-cell anemia

Deficiency and dietary disease
- Scurvy
- Liver deficiency
- High-protein diet (?)

After effect of medication
- Urotropin
- Cantharides
- Mandelic acid
- Sulfonamides
- Salicylates
- Barbiturates

Disease of unknown etiology
- Hodgkin's disease
- Hypertension or arteriosclerosis with renal involvement
- Periarteritis nodosa
- Glomerulonephritis

2] Hematuria due to intrinsic disease of the genitourinary tract

Renal disease
- Calculi or crystals
- Nephritis
- Tumor: capsular, parenchymal, or pelvic
- Infection, acute or chronic, including tuberculosis
- Anomaly: polycystic kidneys, pelvic kidneys, horseshoe kidneys
- Trauma

Ureteral disease
- Calculi
- Infection
- Stricture
- Tumor

Vesical disease
- Tumor
- Infection
- Calculi or foreign bodies
- Ulcer
- Trauma

Bladder neck lesion
- Hypertrophy of prostate—tumor or infection
- Infection of seminal vesicles

Urethral disease
- Infection
- Tumor
- Stricture
- Trauma

3] Hematuria associated with extraurinary pathology
- Acute appendicitis
- Diverticulitis of colon
- Neoplasm of colon, rectum, or pelvic structures
- Acute or chronic salpingitis

The tabulation, while not enumerating all the causes of hematuria, may serve as a guide in the investigative procedures essential to establishing the diagnosis.

A carefully elicited history of previous disease is essential. From the history may be obtained data that will lead to a presumptive diagnosis. A history may reveal past episodes of pulmonary tuberculosis, calculous disease, prolonged bleeding, or a streptococcal infection of the throat which will focus attention on the possibility of renal tuberculosis, calculous disease, blood dyscrasias, or nephritis, respectively.

In like manner, the physical examination may reveal findings of significance, such as edema, enlargement of the spleen, or unilateral or bilateral renal masses. The sudden development of a left varicocele suggests the possibility of a neoplasm of the left kidney with extension into the left renal vein. A thickened, indurated epididymis with beading of the vas suggests renal tuberculosis. A tourniquet test followed by the development of petechial hemorrhage infers the presence of a blood dyscrasia. No survey is complete without a careful rectal or vaginal examination, which may disclose a neoplasm that explains the presence of blood in the urine.

Laboratory data including blood studies, Addis determination, urea clearance, and blood chemistry investigations may impart enlightening information. A complete urologic survey should be required of all patients complaining of hematuria. This study should include ureteropyelograms to rule out the possibility of renal and ureteral lesions.

From the statistical review it is evident that, in older age groups especially, a malignant or potentially malignant lesion must be suspected unless ruled out by cystoscopic survey. Inflammatory lesions are the cause of hematuria much more frequently in women than in men.

As I have previously stated and reiterate, we cannot overemphasize the gravity of hematuria. To improve the end results in the treatment of malignant lesions of the urinary tract, early diagnosis is mandatory. The scope of surgery can hardly be increased, as evidenced by nephrectomy, removal of any adjacent fat and lymph nodes for renal neoplasms, cystectomy, pelvic lymphadenectomy for malignant lesions of the bladder, and, finally, radical perineal prostatectomy for carcinoma of the prostate gland.

In order to insure improved end results, treatment must be instituted early in the course of the disease.

When hematuria occurs, therefore, the physician or surgeon must assume the obligation and responsibility for establishing the correct diagnosis.

A tremendous burden of diagnosis rests upon the general practitioner who, as a rule, is first consulted by the patient with hematuria. If the physician temporizes or procrastinates in advising cystoscopic survey, the patient frequently will be assigned to death from malignant disease.

Diagnosis of Pulmonary Stenosis

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*Cardiac catheterization is the only reliable method for diagnosing congenital pulmonary stenosis.**

A COMMON congenital cardiac lesion, pulmonary stenosis without ventricular septal defect ordinarily occurs at the pulmonic valve. Less commonly, the narrowing is in the infundibular portion of the pulmonary artery within the right ventricle.

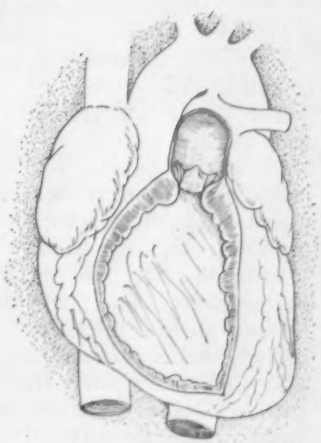
With valvular pulmonic stenosis, the main pulmonary artery distal to the valve becomes dilated but the right and left pulmonary arteries are smaller than normal. With the infundibular type, the main pulmonary artery and the right and left branches remain small. Differentiation is important, since surgery for valvular stenosis is safe, whereas operation for infundibular stenosis has a high mortality rate.

Presumptive diagnosis of pulmonary valvular stenosis can usually be made by physical, electrocardiographic, and fluoroscopic examinations. However, definitive diagnosis requires right heart catheterization.

Most patients have normal body types and facies. Growth retardation is unusual. Cyanosis is uncommon and does not occur unless the right auricular pressure rises enough to shunt unoxygenated blood through the foramen ovale into the left auricle.

Auscultation reveals a harsh systolic murmur along the left sternal border, usually loudest at the second and third interspaces; intensity varies from grade II to grade VI.

In patients with severe stenosis, the pulmonary second sound may be diminished or absent; when stenosis is slight, the pulmonary second sound may be louder than the aortic second sound. Occasionally, patients with valvular pulmonary stenosis have a pulmonary diastolic murmur.



*The clinical picture of pulmonary stenosis (without ventricular septal defect). Ann. Int. Med. 40:1108-1124, 1954.

The electrocardiogram may be normal but more often shows the pattern of right ventricular hypertrophy.

Roentgenographic and fluoroscopic examinations show characteristic decrease of pulmonary vascular markings. However, patients with only slight stenosis have normal appearing lung fields. Poststenotic dilatation of valvular stenosis causes disproportional pulsation between the large main pulmonary artery and the small right and left pulmonary branches. Right ventricular hypertrophy can also be demonstrated.

Cardiac catheterization generally reveals high pressure in the right ventricle and low pressure in the pulmonary artery. Usually the type of pulmonary stenosis can be determined also. A sudden increase in pressure occurs with valvular stenosis as the catheter is withdrawn from the pulmonary artery.

However, with infundibular stenosis, a transitional zone occurs in the infundibular chamber, with the pressure intermediate between the low pulmonary artery pressure and the high right ventricular pressure.

Until the operative technic for pulmonary valvotomy improves and mortality decreases, surgery should be done only if the initial right ventricular pressure is 70 mm. of mercury or more or if the patient has signs of right heart failure or decreasing arterial oxygen saturation or if an increasingly abnormal electrocardiogram is evident.

Glucose Tolerance in Hypertension and Obesity

MORRIS L. DRAZIN, M.D., VETERANS ADMINISTRATION, NEW YORK CITY, reports that glucose tolerance is diminished more frequently with coexistent hypertension and obesity than with either condition alone.

The 1-dose oral glucose tolerance test was given to 42 patients with obesity, 52 with hypertension, and 60 with both conditions. None of the patients had diabetes mellitus, hyperthyroidism, cirrhosis, hepatitis, or frank Cushing's syndrome. Blood and urine were examined one-half, one, two, and three hours after 100 gm. of glucose was administered.

More than 70% of the obese hypertensives, 45% of the obese normotensives, and 35% of the nonobese hypertensives had decreased glucose tolerance. Since exercise improves the tolerance for glucose and obesity and hypertension interfere with physical effort, especially when the heart, kidney, or brain is affected, the enforced inactivity of the patients studied may have influenced the glucose tolerance curves.

Age is not correlated with glucose tolerance curves.

Glucose tolerance in hypertension and obesity. Diabetes 2:433-442, 1953.

Polycythemia Vera

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*The superficially distinct myeloproliferative syndromes may be variants, produced by diverse patterns of marrow cell proliferation, of a generalized disturbance.**

DIAGNOSIS of polycythemia vera should be considered in patients who have intense itching after a bath. The symptom occurs in about one-third of patients with the disease and may be severe enough to prevent ordinary bathing. The cause of the discomfort is not known, but the symptom appears to be specific for polycythemia vera. The pruritus may be differentiated from the generalized and constant itching associated with Hodgkin's disease and lymphosarcoma.

After a variable period of intense bone marrow activity, the disease process of polycythemia vera may become static for one or five years or longer. Gradual and progressive anemia develops, and fibrosis of the marrow, myelosclerosis, gradually increases. Leukocyte, megakaryocyte, and platelet counts may not be affected by the sclerosing process but may remain at high levels or even increase.

Splenomegaly increases as myelosclerosis develops and may reach huge proportions. Although the splenomegaly may be considered compensatory, the sclerosis of the marrow and the myeloid metaplasia of the liver and spleen are probably simultaneous proliferative lesions of fibroblasts in the bone marrow and of hematopoietic precursors in potential blood-building organs.

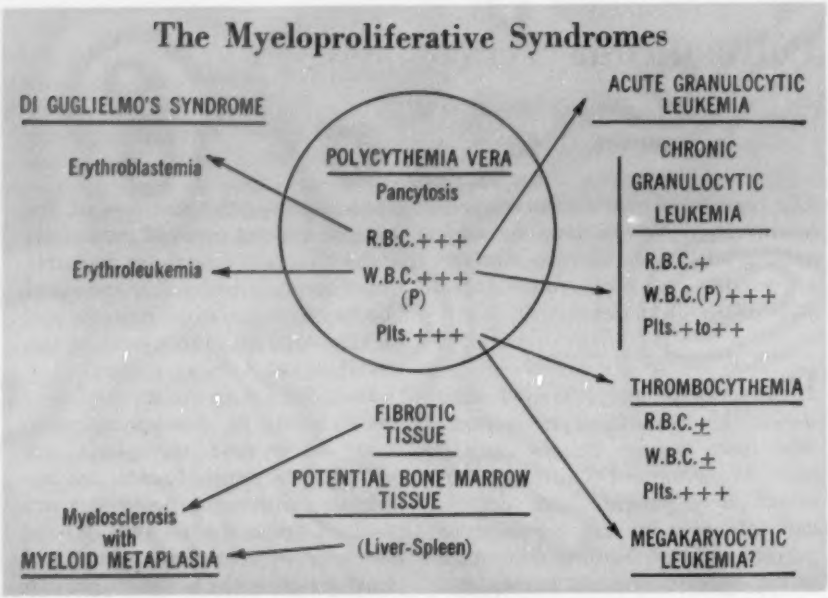
So-called agnogenic myeloid metaplasia and the postpolycythemic state of myeloid metaplasia are probably the same disease, the agnogenic disturbance being the end result of polycythemia vera. As the disease progresses, leukocytes and platelets diminish, while the spleen and liver continue to increase.

Transfusions may be of some help for the anemia. Pain from the enlarged spleen may be partially relieved by irradiation in small doses of 25 to 50 r, given in a course of 3 or 4 treatments. However, irradiation does not appreciably reduce spleen size, and the splenomegaly soon returns.

Splenectomy may be justified by pronounced hemolysis or excessive transfusion needs. However, the operation may cause increase in platelet count and thrombotic manifestations.

Proliferation in the bone marrow may occur simultaneously in several directions, as with polycythemia vera, or may be specialized with one element predominating. Several apparently different conditions

*Some observations in polycythemia vera. Bull. New England M. Center 16:53-63, 1954.



may be grouped together under the general designation of myeloproliferative syndromes, with polycythemia vera forming the central point (see illustration). Such syndromes include myeloid metaplasia, the Di Guglielmo syndrome, and thrombocythemia.

The Di Guglielmo syndrome is characterized by an intense and apparently neoplastic proliferation of nucleated red cells, often at the expense of the leukocytes and platelets. Thrombocythemia consists of an extreme increase in platelets to levels of 1,000,000 to 10,000,000. In such cases megakaryocytic proliferation in the marrow is striking.

¶ METASTASIS OF CANCER to cancer is very infrequent. The reason for the rarity of this occurrence may be either biologic antagonism or simply mathematical improbability. In 5 cases of such invasion, S. M. Rabson, M.D., and associates of St. Joseph Hospital, Fort Wayne, Ind., and the Veterans Administration Hospital, Indianapolis, find that the spread was to renal clear-cell neoplasms in 2 instances of pulmonary carcinoma and 2 of adenocarcinoma of the prostate. Adenocarcinoma primary to the cecum was observed in lymphosarcomatous areas of the lung, liver, pancreas, and abdominal lymph nodes. Possibly, established tumors produce a substance antagonistic to metastasizing tissue.

Am. J. Clin. Path. 24:572-579, 1954.

Management of Pneumonia

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Mayo Clinic, Rochester, Minn.

*Individualization of therapy, selection of proper antibiotics, and supportive measures are necessary to reduce morbidity and mortality with pneumonia.**

CULTURES of blood and sputum should be made before treatment of pneumonia is initiated. However, antibacterial agents must often be administered before the organism is identified. History and physical examination, stained smear of the sputum, and leukocyte count aid in selecting preliminary therapeutic agents.

Leukocytosis suggests bacterial pneumonia and leukopenia is a sign of primary atypical pneumonia. If gram-positive bacteria are seen in the Gram-stained smear, penicillin with or without dihydrostreptomycin should be given. Gram-negative organisms on smears require use of tetracycline drugs (Terramycin, aureomycin, or achromycin) with dihydrostreptomycin.

The initial regimen usually consists of 300,000 units of procaine penicillin and 1 gm. of intramuscular dihydrostreptomycin given once daily, or every twelve hours if the patient's condition is critical. With signs of meningitis, larger dosages are used.

The treatment program is revised as soon as the organism is identified by culture. When bacteriologic facilities are not available, the initial regimen is continued if the patient is improving. A trial of other antibiotics is probably justified when progress is poor.

SPECIFIC THERAPY

With pneumococcal pneumonia, penicillin is preferred unless the patient is hypersensitive to the drug. Dosage is 300,000 units of procaine penicillin intramuscularly once daily for at least seven to ten days regardless of response. Severely ill patients require higher dosages. With meningitis, intramuscular administration of 1,000,000 units of penicillin in aqueous solution every two hours and 500 mg. of dihydrostreptomycin every twelve hours until improvement occurs is recommended. The tetracyclines and Erythromycin are also effective for treatment of pneumococcic pneumonia.

Friedländer's *(Klebsiella)* pneumonia is treated with 750 mg. of Terramycin orally every six hours and 500 mg. of dihydrostreptomycin intramuscularly every twelve hours.

The preferred treatment for pneumonia caused by *Micrococcus pyogenes (Staphylococcus)* seems to be Erythromycin orally in doses

*Treatment of pneumonia. M. Clin. North America 38:981-987, 1954.

of 300 to 400 mg. every six hours. However, in vitro sensitivity tests should be made before treatment and when progress is unsatisfactory. Micrococci resistant to the drug may develop rapidly.

Penicillin is the preferred drug for pneumonia caused by hemolytic streptococci. Erythromycin or a tetracycline is the second choice.

Hemophilus influenzae may occasionally cause extensive pneumonia. Treatment consists of 750 mg. of oral Terramycin every six hours and 500 mg. of intramuscular dihydrostreptomycin every twelve hours.

For pneumonias caused by the viruses of the psittacosis-ornithosis group, Terramycin or aureomycin orally in doses of 750 mg. every six hours is effective.

Efficacy of antibiotics for primary atypical pneumonia is questionable. However, treatment with one of the tetracyclines is justified because of the difficulty of distinguishing early between primary atypical pneumonia and psittacosis or ornithosis. Also, nonbacterial and bacterial pneumonia often cannot be differentiated early.

SUPPORTIVE MEASURES

Sleep of a person with pneumonia should be disturbed only when necessary. Oxygen by means of a tent or BLB mask should be administered for cyanosis or dyspnea. If abdominal distention occurs despite adequate oxygen, measures to avoid constipation are used.

Cough resulting in excessive fatigue should be partially suppressed with codeine. Complete suppression should be avoided. Oral potassium iodide may be helpful when mucus is tenacious. Fluid intake should be supplemented parenterally if oral intake is inadequate.

Preventing Lesions from Insulin Injections

MAXIMILIAN FABRYKANT, M.D., AND BENJAMIN I. ASHE, M.D., NEW YORK UNIVERSITY, NEW YORK CITY, find that dermal lesions at the site of insulin injections are prevented or decreased by proper technic of administration and by daily shifting of the injection area. The recommended method consists of stretching the skin and injecting the insulin perpendicularly deep into the subcutaneous tissue. The skin should not be folded or the injection made at an angle or in any way to cause superficial deposition of insulin. Occasional temporary inflammatory lesions will still appear but persistent indurations and lipodystrophies are prevented.

Studies of 100 insulin-treated diabetic patients reveal that skin lesions at injection sites are nonspecific reactions to mechanical and chemical irritation and are not related to any specific type of insulin or to insulin allergy.

Nature and prevention of local skin lesions from insulin administration. Metabolism 3:1-10, 1954.

Cystic Lesions of the Lung

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Mayo Clinic, Rochester, Minn.

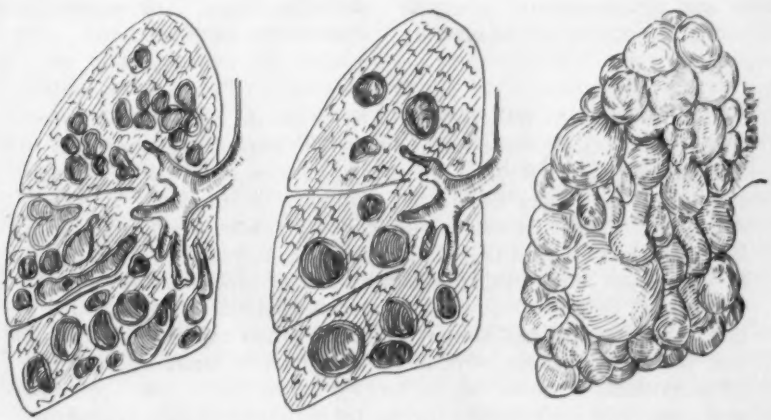
*A logical classification of lung cysts is essential to proper diagnosis and treatment.**

PULMONARY cystic lesions may be [1] bronchiectatic cysts, [2] congenital bronchogenic cysts, [3] thin-walled cysts containing air, or [4] specific cysts, such as lung abscesses.

Bronchiectatic cysts are dilatations of branch bronchi that form gross lung cavities. The cysts are usually multiple and may contain fluid. The nature of the cavities is best determined by bronchographic examination. Surgical resection of involved lung tissue is the only satisfactory treatment.

Developmental anomalies cause the *congenital bronchogenic cysts*, which are usually solitary. The walls of the cysts are lined with bronchial epithelium and often contain abnormal amounts of cartilage and muscle.

The bronchogenic lesion should be suspected when a thoracic roentgenogram shows a thick-walled cavity with some fluid. If filled with fluid or thick mucous secretion, the cyst appears roentgenographically as a solid lesion. In such cases, diagnosis usually can be made only by thoracotomy. In



Bronchiectatic cysts Congenital bronchogenic cysts Thin-walled cysts

*Cystic lesions of the lung. M. Clin. North America 38:1075-1079, 1954.

infants, bronchial cysts may have extremely thin walls and contain no fluid.

Congenital bronchogenic cysts may become infected, bleed, and perforate into the pleural space causing bronchopleural fistula. In addition, carcinoma may develop within the walls. Therefore, all cysts, even though asymptomatic, should be removed either by simple excision, if possible, or by lobectomy.

Thin-walled cysts containing air are lined with flattened epithelium and may appear at any age. Developmental defects are presumed to be responsible for those appearing in infancy and childhood. Developmental cysts are usually multiple and may be scattered throughout both lungs.

More commonly, however, thin-walled cysts appear first during adult life. Diffuse pulmonary emphysema is not always associated. Infection is infrequent, but, if the cysts are numerous and bilateral, pulmonary function will be severely decreased. The cysts may rupture, causing a spontaneous pneumothorax.

Diagnosis can be made when a characteristic large, solitary cavity with a thin wall is seen on a roentgenogram. However, multiple lesions may be confused with bronchogenic cysts, particularly in children.

Excision is done when the cysts are solitary and the lungs otherwise are in good condition. Treatment is directed toward prevention of spontaneous pneumothorax when lesions are multiple. Should pneumothorax occur, thoracotomy is done. The parietal pleura is stripped away so that the lung may become adherent to the thoracic wall, preventing further collapse.

Specific cysts result from infection, such as tuberculosis, coccidioidomycosis, or acute suppurative disease, or from carcinoma. Such lesions are termed pseudocysts because of a lack of epithelial or endothelial lining. The primary disease should be treated.

¶ BLOOD PRESSURE RECORDINGS should be made by hypertensive patients at home daily during the period of adjustment of dosages of ganglionic blocking agents, because such values are substantially lower than the results obtained at the clinic or office. Among 32 persons treated with pentapyrrolidinium (Ansolysen), Edward D. Freis, M.D., of Georgetown Universty, Washington, D. C., reports that all except 1 subject had systolic pressures 30 mm. of mercury or more below the pretreatment level when recorded at home, but only 10 had similar reduction when examined in the office. Diastolic readings were at least 20 mm. of mercury lower for 27 individuals at home but for only 6 at the office. The apprehension associated with visiting the doctor was undoubtedly responsible for the excessive elevations.

M. Ann. District of Columbia 23:363-367, 1954.

Cation-Exchange Resin Therapy

CHARLES WILLIAM SMITH, M.D., KENNETH E. QUICKEL, M.D., ARTHUR E. BROWN, M.D., AND CHESTER G. THOMAS, M.D.
Harrisburg Clinic, Harrisburg, Pa.

*Because extensive laboratory controls are not necessary, cation-exchange resin therapy may be used for ambulatory patients.**

ELECTROLYTE imbalance is infrequently caused by administration of cation-exchange resins and can be recognized as quickly by symptoms as by laboratory data. Hence, the therapy may be safely used for nonhospitalized persons, provided the patient is seen weekly.

Cation-exchange resins effectively reduce edema caused by cardiac or renal disease. Some hypertensive patients with slight or moderate edema have a decrease in blood pressure when given exchange resins. The compounds may be taken orally and reduce or eliminate need for diuretics as well as provide some relief from the monotony of diets extremely low in sodium.

A diet limiting sodium intake to 1 to 2 gm. daily is prescribed. Resodec, which is a 3:1 mixture of the ammonium and potassium forms of a polycarboxylic cation-exchange resin, is used in doses of 15 gm. three times a day. By replacing about 25% of the ammonium salts with potassium salts, the mixture decreases the likelihood of acidosis and partially compensates for loss of potassium.

Hypokalemia is the only complication to be anticipated. The electrolyte imbalance can be recognized by a pronounced muscle weakness. Potassium salts quickly correct hypokalemia.

Potassium and sodium levels decrease when therapy is started and then remain nearly constant. No significant changes occur in blood count, sedimentation rate, hematocrit determination, urine status, or blood urea nitrogen. With severe renal impairment, phenolsulfonphthalein excretion is less than with slight renal disease, but little change is evident among most patients.

Approximately half of the patients have occasional nausea and gastric discomfort and loss of appetite when treatment is initiated. Diarrhea and constipation also occur. Changing the dosage or the beverage used as a vehicle for the resin may help the patient adjust to the regimen. Most patients prefer water as a vehicle.

If vomiting, diarrhea, or other untoward signs develop, resin therapy should be stopped but can often be resumed later.

*How safe is cation exchange resin therapy when used in private practice? Ann. Int. Med. 40:1169-1176, 1954.

Diagnostic Studies of Renal Masses

EARL FLOYD, M.D., JAMES L. PITTMAN, M.D.,*
AND J. CANDLER GUY, M.D.
Emory University and Grady Memorial Hospital, Atlanta

Pyelograms are probably the most important diagnostic measures used in differentiating renal masses, although aortographic examination or renal tap is sometimes more accurate.†

THE most common lesions involved in renal mass include solid tumor, solitary or multiple cysts, polycystic renal disease, multilocular solitary cyst, hyperplasia, hydronephrosis, abscess, hematoma, and hydrocele.

Diagnosis includes careful study of previous disease, physical examination, routine laboratory studies, including differential urine specimens and function tests, and roentgenograms of the abdomen. However, such measures are not always adequate and may even be confusing.

Pyelograms usually show typical patterns with renal lesions. General hyperplasia, polycystic disease, and hydronephrosis are seldom difficult to diagnose. However, even with adequate pyelograms, some problems may arise in distinguishing solid tumors from renal cysts. The most extensive deformities are produced by tumor. On the other hand, a renal cyst, unless truly intrarenal, frequently causes a change in the outline of the renal shadow with little or no alteration in the calices or pelvis.

When pyelograms do not suffice, other methods are available for differentiation of tumor from cyst. These include: [1] aspiration with renal cystogram or Papanicolaou stain, [2] biopsy, [3] perirenal air insufflation, and [4] translumbar aortographic examination with subsequent renal arteriogram and nephrogram.

If fluid is withdrawn by an aspirating needle, smears can be made for cytologic study. Opaque medium may be injected directly into a solid cystic mass, producing a typical smoky and mottled pattern on the roentgenogram. Needle biopsy is not recommended because of the risk of spreading tumor cells in the needle tract.

Perirenal air insufflation may be done safely and accurately and requires little equipment. Inert gas, 300 to 500 cc., can be injected with a syringe and large needle through the flank into the perirenal spaces. A good outline of the renal shadow or mass is often seen. If the presacral route is used, diffusion may be clear on both sides. Although of value in determining whether a mass is truly renal, perirenal air

*Deceased.
†Evaluation of diagnostic procedures in the study of renal masses. South. M. J. 47:426-430, 1954.

insufflation does not add much to the knowledge of cystic or solid masses.

The most adequate procedure available for use when a pyelogram is not conclusive is a renal arteriogram. Properly done, the technic is both safe and accurate. The patient lies prone and a plain film is made to determine position and technical factors for the roentgenogram. A test dose of the opaque medium is injected.

Using a 6-in., 18-gauge needle, an aortic puncture is made just below the border of the twelfth rib and at the lateral edge of the longitudinal back muscles, about 8 cm. to the left of the midline. The point of the needle is directed toward the twelfth thoracic or first lumbar vertebra. When the vertebra is touched, the point is then withdrawn and depressed, the stilet removed, and the needle passed directly into the aorta. The medium, 10 to 12 cc., is then rapidly injected.

A first film is made as the last cubic centimeter leaves the syringe, and a second film as rapidly as the cassettes can be changed. The first film gives the arteriogram and the second the nephrogram.

Solid tumors usually have a puddling of medium in the area of pyelographic deformity, whereas cysts are typically avascular.

¶ OSTEITIS PUBIS is effectively treated with cortisone. When the hormone is administered in doses of 300 mg. the first day, 200 mg. the second day, and then 100 mg. daily for ten days, improvement begins promptly, report C. A. Hoffman, M.D., and R. F. Erhard, M.D., of Huntington, W. Va. The patient may be free of symptoms within twelve days.

J. Urol. 72:247-251, 1954

¶ RECURRENCE OF NEPHROBLASTOMA after an asymptomatic period of five years is extremely rare. However, reappearance of Wilms's tumor in a 15-year-old girl eight years after nephrectomy had freed her from symptoms is reported by Le Roy W. Falkinburg, M.D., Maurice N. Kay, M.D., and Edmund A. Sayer, M.D., of Roger Williams General Hospital, Providence, R.I. Death occurred two years after removal of the second tumor.

J.A.M.A. 155:1228-1229, 1954.

Diagnosis and Treatment of Prostatitis

EDWARD N. COOK, M.D.
Mayo Clinic, Rochester, Minn.

*Age of the patient is a significant factor in the diagnosis and treatment of prostatitis.**

SINCE inflammation of the prostate gland is uncommon among men under 40 years of age, a related condition should be sought when a young patient has symptoms of the disease. Causative factors may be foci of infection in the teeth or tonsils or strictures in the vesical neck.

The etiology of prostatitis is not known. An excessive number of leukocytes in the prostatic secretions is the only typical sign. The severity of the inflammatory process is graded according to the number of cells per high-power field. Clumping of the cells is a sign of impaired drainage of the acini and ducts.

Symptoms include burning and frequent urination, dysuria, nocturia, and aching pain low in the groin or suprapubic region. A urethral discharge is rare except with stricture. Perineal pain with transient testicular distress and a watery urethral discharge after stripping the penis are usually caused by a functional disorder rather than prostatitis. The disease does not disturb sexual function.

Symptoms of prostatitis may arise from chronic abscess of the prostatic duct, which interferes with drainage of the prostatic glands. Cystoscopic examination reveals minute cicatricial and dilated openings of the ducts. Massage is ineffective, and saucerization of the pockets formed behind the dilated orifice is necessary.

Patients under 40 years of age with prostatitis should be treated. The gland is massaged twice a week for about three months, and 5% Argyrol is instilled locally. Change in the prostatic secretion may not be noted for several months. After a three- to four-month interval, another shorter course of therapy is given if infection and symptoms persist.

Treatment of patients over 40 years with prostatitis is not advisable unless related symptoms accompany the disease. Unnecessary therapy is harmful, since local irritation and psychic disturbances may be provoked. Among aged patients, infection of the prostate frequently occurs intermittently with prostatic obstruction. In such instances, massage may precipitate more severe damage.

Massage should not be done when prostatic hyperplasia or calculi exist. Unless pyuria or bacilluria is a probable cause of the infection, antibiotics are of no therapeutic value.

*Present concepts of prostatitis. Proc. Staff Meet., Mayo Clin. 29:247-250, 1954.

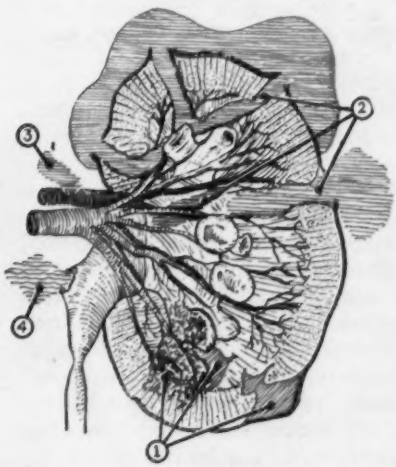
Injuries of the Kidney

CARLISLE F. SCHROEDER, M.D.
Jennings Memorial Hospital, Detroit

DAVID S. RANDALL, M.D.
Wayne University, Detroit

*Renal trauma ranges from slight contusion with minor symptoms to vascular tears of the pedicle with serious consequences.**

THE true incidence of renal trauma cannot be ascertained since slight damage may be overlooked because of concomitant injury. The right kidney is damaged more often than the left, possibly because of lower position and proximity to the liver.



Types of renal injury include [1] microscopic hematuria or small subcapsular hematoma, [2] severe hematuria with clots or extensive perirenal hematoma, [3] lacerated renal pedicle, and [4] torn calyx or renal pelvis causing urinary extravasation.

Parenchymal lacerations usually are placed radially and tend to follow the course of the main arterial trunks. Tears may be stellate, or occasionally an entire pole is torn free or the kidney halved. Hemorrhage may be slight, as with transient microscopic hematuria; profuse, as with severe hematuria with clots; or uncontrollable, as with torn renal pedicle. If a calyx or the renal pelvis is opened, urinary extravasation occurs (see illustration), which may be extensive enough to require drainage.

ETIOLOGY

Renal injury may result from [1] direct force, such as blows or crushing force on the abdomen, lower thorax, flank, or lumbar region; [2] indirect force from falls or other sudden changes of body momentum; [3] penetrating wounds from missiles or pointed objects; [4] sudden muscular effort during strenuous work or play; or [5] blast concussions.

DIAGNOSIS

Urinary abnormalities, shock, renal pain and reflex phenomena, and mass in the renal area are the basis

*Renal injuries. S. Clin. North America 33:1171-1178, 1953.

of diagnosis. Repetition of physical examination, scout films of the abdomen, excretory urograms, and cystoscopic and retrograde pyelographic studies are added aids.

The scout film and excretory urogram will show skeletal injury, loss of renal outlines or psoas shadows, high diaphragm, concave scoliosis, displacement of the bowel outline, or intraperitoneal lesions. The urogram demonstrates the status of the kidney on the uninvolved side, since, after injury, the damaged side may not function or may show extravasation of contrast medium.

Cystoscopic and retrograde pyelographic examinations are recommended only when exact diagnosis is not made by other means.

TREATMENT

The trend is toward conservative treatment of renal injuries. However, surgery is required for primary or secondary hemorrhage, increasing mass in the flank, severe renal damage, or overwhelming sepsis. Route of operative approach varies with concomitant injuries. If the kidney is damaged beyond repair and the opposite kidney is functioning, nephrectomy is advisable, using the double clamp technic with mass ligation of the pedicle or individual vessel ligation.

With less extensive injury, lacerations may be repaired by approximation of wound edges with absorbable hemostatic sutures tied over bits of fat or muscle. Packing for control of bleeding may be necessary if the patient's condition is critical.

Antibiotics, intravenous supportive therapy, measures to reduce ileus, and early ambulation are often necessary.

Incidence of Pediatric Urologic Disease

JOHN K. LATTIMER, M.D., AND MIRIAM HUBBARD, R.N., COLUMBIA–PRESBYTERIAN MEDICAL CENTER, NEW YORK CITY, find that congenital anomalies are the largest and most significant group of childhood diseases requiring admission to a urologic service.

Of 2,063 consecutive pediatric urologic admissions, 45% were patients with congenital anomalies such as phimosis or redundant prepuce; undescended testis, usually unilateral; congenital deformity of the kidney, commonly a double pelvis; cystic degeneration of the kidney; polycystic disease; hypospadias; urethral stricture; or hydronephrosis, often due to a generalized flaccid dilatation of ureters, bladder, and pelvis probably on a neuromuscular basis.

The second largest group, 11%, was made up of children with urologic infections.

Only 2% of patients were admitted with tumors of the genitourinary tract or adrenal glands. Of these, Wilms's tumor accounted for almost two-thirds.

Relative incidence of pediatric urological conditions. J. Urol. 71:759-764, 1954.

Surgery for Ulcerative Colitis

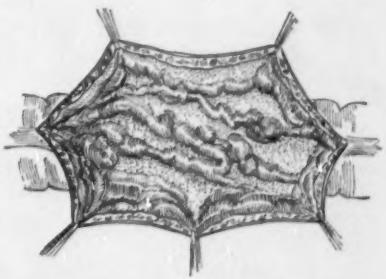
JOHN H. GARLOCK, M.D., AND ALBERT S. LYONS, M.D.
Mount Sinai Hospital, New York City

*Under some circumstances, surgical therapy for ulcerative colitis means restoration from chronic invalidism to a healthy, useful life.**

SURGICAL treatment of ulcerative colitis is required for complications of the disease, as a lifesaving procedure for the toxemic patient not improving with conservative therapy, to remove the colon after irreversible disease changes have occurred, and for colonic polyposis.

1] *Complications of ulcerative colitis* include pericolonic abscess, fistula, hemorrhage, and impending or actual perforation. Gradual ulcerative penetration through the colonic wall may result in abscess which requires incision and drainage. External fecal fistula at the drainage site frequently forms. Ileostomy and subsequent colectomy are required for such conditions. Perianal abscesses are common with ulcerative colitis and are due to infection of the rectal crypts. Thorough incision and drainage are necessary, but ileostomy need not be done.

Fistula-in-ano is a serious complication of ulcerative colitis. Extensive fistulization is associated with widespread disease of the rectal wall, and ileostomy and complete colectomy should be done.



Rectovaginal fistula also usually indicates extensive disease of the rectal wall. Repair should not be attempted until the fecal current is diverted by ileostomy.

Severe bleeding may occur during both acute and chronic stages of the disease. Repeated transfusions usually are not sufficient. Ileostomy frequently stops hemorrhage by diverting the fecal stream and reducing intracolonic tension. If bleeding continues, one-stage ileostomy and colectomy are done.

Increasing abdominal pain, tenderness in either lower quadrant, elevation of temperature and leukocyte count in a patient with the acute phase of the disease suggest impending colonic perforation. Persistence of symptoms for twenty-four hours may be taken as an indication for ileostomy. Sudden free perforation of a colonic ulcer with diffuse soiling of the peritoneum necessitates immediate lap-

*The role of surgery in the therapy of ulcerative colitis. Gastroenterology 26:709-722, 1954.

arotomy, supplemented by massive antibiotic therapy.

2] *Management of the acute fulminating episode* of ulcerative colitis is difficult. Though sudden improvement may occur without definitive therapy, too much delay increases surgical mortality. The use of ACTH and cortisone for toxicity may produce sufficient improvement to permit surgery.

3] Longstanding ulcerative colitis may result in *irreversible changes in the bowel,* and the patient becomes a chronic invalid. Improvement after ileostomy and colectomy may be dramatic.

4] Development of *polyposis* in the course of longstanding colitis, as determined by barium enema and sigmoidoscopic examinations, renders surgical treatment imperative because of high incidence of malignant transformation in such polyps.

Ileostomy is only the first in a series of operative procedures to remove a diseased colon and rectum. Colectomy should be done three to six months later. After this procedure, if stricture, polyposis, continuing friability with bleeding, widespread perianal scarring with loss of sphincter control, or extensive rectovaginal fistula occurs, abdominoperineal resection is required. The presacral plexus should be preserved to prevent impotence.

Postoperative complications include excessive electrolyte loss, bowel obstruction, major skin excoriations, wound separation, prolapse, ileostomy fistula, retraction and superficial stenosis of ileostomy, and enteritis.

Treatment for Esophageal Varices

LT. COL. EDDY D. PALMER, M.C., U.S.A., WALTER REED ARMY HOSPITAL, WASHINGTON, D. C., controls massive hematemesis from esophageal varices by intravariceal injection of 5% sodium morrhuate and simultaneous pneumatic tamponade, until surgical portal decompression can be done.

Of 8 patients so treated, hemorrhage was satisfactorily controlled in 3. An average of 1,170 cc. of whole blood was required. Liver failure caused death in 5 patients before surgery could be done. None died of exsanguination.

A control group of 17 patients, first found to have esophageal varices by esophagoscopic examination at the time of hemorrhage, were treated by immediate pneumatic tamponade as the only local therapy. Hemorrhage was sufficiently controlled to permit definitive surgery in 8 patients, but over 10,000 cc. of blood was usually necessary. Of the remaining 9 patients, 3 died from exsanguination and 6 from liver failure.

Emergency treatment of bleeding esophageal varices. Arch. Otolaryng. 59:536-542, 1954.

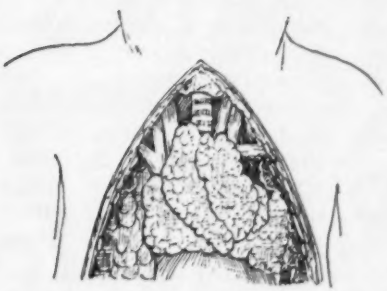
Thymectomy for Myasthenia Gravis

GEOFFREY KEYNES, M.D.
St. Bartholomew's Hospital, London

*If thymic tumor is not associated with myasthenia gravis, removal of the thymus gland frequently will provide permanent and complete relief.**

ALMOST 70% of patients with myasthenia gravis who do not have tumors of the thymus are greatly improved after thymectomy. Remissions are more prolonged in such patients than in those who do not have surgery. However, the results of removal of thymic tumors are so poor that primary surgery should not be undertaken in such cases. A particularly virulent form of the disease is associated with epithelial tumors.

Almost all tumors can be detected by thorough study of a properly exposed lateral chest film. With an anteroposterior view, the mediastinal mass may be obscured by the shadows of the great vessels. Tomographic examination may be of value in doubtful cases.



High voltage roentgen-ray therapy is the initial treatment for thymomas associated with myasthenia gravis. Because of the malignant potentialities of the tumor, eventual thymectomy is desirable if the patient's condition permits.

Thymomas in patients without myasthenia gravis ordinarily are discovered by usual chest examinations. Prompt surgical removal is required for these subjects also, because of the possibility of malignant disease. Excision of the tumor also removes a potential cause of myasthenia gravis.

After thymectomy, recovery may be rapid, or the rate of improvement may soon slow down, making the full result uncertain for months or even years. Some muscles undergo irreversible changes and fail to improve after surgery. Such muscles also fail to react to neostigmine. In many instances, the drug is unnecessary even though residual weakness persists. Eventually, death may be caused by a respiratory paralysis.

The occurrence of myasthenia gravis in children must not be overlooked. Results of thymectomy for children are comparable to those for adults.

*Surgery of the thymus gland. Lancet 266:1197-1202, 1954.

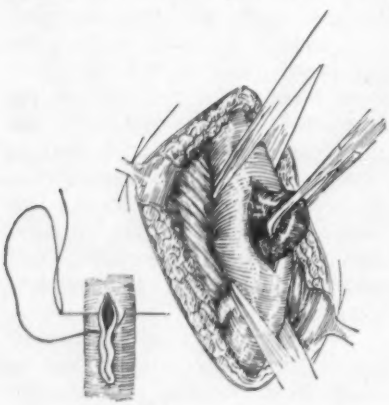
Management of Deep Vein Thrombosis

HOWARD MAHORNER, M.D.
Louisiana State University, New Orleans

*Thrombectomy, restoration of the lumen, and heparinization are recommended for thrombosis of deep veins of the extremities.**

EXTENSIVE venous thrombosis with massive edema suggestive of phlegmasia alba dolens or phlegmasia cerulia dolens may be effectively relieved by surgery designed to [1] preserve the lumen of the vein and [2] prevent subsequent edema formation and disability.

The operation is performed as soon as the diagnosis of deep vein thrombosis is made. The incision is made at the estimated upper level of the clot and carried down to the vein. The thrombosed vein is longitudinally incised and the clot is removed by narrow forceps inserted into the lumen (see illustration) or by pressure from above or below the incision. Suction may be applied by a soft rubber catheter alternately advanced and withdrawn. Usually the clot is removed without difficulty.



Brisk bleeding occurring after expression of the clot is controlled by soft rubber strips placed above and below the incision. Active bleeding indicates that the thrombosis has been completely removed.

Instead of ligation at this point, the vein is closed with a 0000 silk running, Carrel type mattress suture, leaving the lumen of the vein unobstructed. The skin and fascia incisions are next sutured.

The saphenous vein at the ankle is exposed through a longitudinal incision just above and on the anterolateral aspect of the internal malleolus. A PE100 polythene tube is inserted and 1,000 cc. of a 5% dextrose solution is allowed to drip into the saphenous vein at a rate of 20 drops per minute.

One hour postoperatively, 200 mg. of heparin is added to the remaining dextrose in the flask. The anticoagulant is not added immediately because the capillary and suture lines must be given

*A new method of management for thrombosis of deep veins of the extremities. Am. Surgeon 20:487-498, 1954.

time to seal. Clotting time is determined every four hours and is maintained at fifteen to twenty minutes.

After twelve hours, when the first liter of infusion is almost complete, a second 1,000 cc. of dextrose solution is started which contains 100 to 200 mg. of heparin, depending on the coagulation time. Additional heparin may be added if needed.

Every hour postoperatively, a tourniquet is placed above the knee for five to ten minutes to constrict the superficial circulation and divert the flow of heparin more definitely into the deep veins. A blood pressure cuff inflated to 35 mm. of mercury may be used for this purpose.

Heparin is continued for seventy-two hours after surgery. The patient can then walk for brief periods. Elastic bandages should be worn on the legs.

Valves of the veins apparently are not damaged by the procedure.

Paget's Carcinoma of the Male Breast

PERRY C. MARTINEAU, M.D., AND FRANK GOODRICH, M.D., HERMAN KIEFER HOSPITAL, DETROIT, believe that Paget's carcinoma in the male breast, relatively rare, may be caused by a single etiologic agent. The theory that cancer cells arise simultaneously in the ducts and epidermis does not fully recognize the extent of migratory activities of carcinoma cells.

With Paget's carcinoma of the male breast, a pruritic, erythematous, scaling, eczematoid lesion of the skin of the nipple and areola characteristically progresses to ulceration, exudation, and crust formation. Tumor formation in the breast and enlargement of axillary nodes are manifestations of advanced stages of the disease.

Histologic examination reveals Paget cells in the epidermis. The infiltrating tumor is usually scirrhous and forms poorly defined alveolar structures surrounded by large amounts of dense fibrous tissue.

Since lymph node metastases occur as with other forms of mammary carcinoma, simple mastectomy or radical excision with supplementary deep irradiation should be done.

Diagnosis of Paget's carcinoma was confirmed by biopsy in a 63-year-old man with itching and excoriation of the right nipple of one year's duration. Simple mastectomy was performed. The specimen revealed a superficial, noninfiltrating duct-cell carcinoma with typical Paget cells in the epidermis. The wound healed by primary intention, and no masses, metastases, or recurrences of the carcinoma have been observed during a follow-up period of eighteen months.

Paget's carcinoma of the male breast. Bull. Wayne Univ. Coll. Med. 1:55-64, 1954.

Postoperative Thyroid Storm

TIMOTHY A. LAMPHIER, M.D.
Boston

WILLIAM WICKMAN, M.D.
Miami

*In spite of careful preoperative hospital preparation, thyroid crises still occur and require alert symptomatic treatment to prevent death.**

MANY surgeons finish training today without ever observing thyroid storm, formerly a common sequel of thyroid surgery. However, the condition is always a possibility and should be anticipated, particularly when initial basal metabolic rates are between plus 80 and 100. Immediate diagnosis and action are essential to save life.

Surgery should not be attempted for a toxic thyroid patient until weight is increasing, the pulse rate is near normal, nervousness and emotional instability are under control, and the metabolic rate is below 20. Even when these conditions are met, crisis may occur after operation. Thyroid storm may occur before the operation also. Examples of 3 recent cases, including 1 death, are cited.

Stimulus causing thyroid storm may be pain, slight hemorrhage, emotional stress, injection of adrenalin, and foreign or split protein, as in operative tissue damage. Crisis without any obvious exciting factor is apparently the most likely to be fatal.

Symptoms stem from greatly increased metabolism. The chief manifestation is breakdown of the heat-regulating mechanism of the body, so that, with rising temperature, extremities are cold and sweating is profuse. Heart rate may be 120 to 160 per minute or imperceptible.

Restlessness may necessitate restraint. A patient may progress from apprehension to talkativeness, incoherence, delirium, and coma.

Oxygen requirements are extremely high, probably greater than with any other disease. Dehydration and acidosis are dangers. The basal metabolic rate may be unobtainable.

Deaths may be described as cardiac although no heart lesion can be found. Adrenals and liver are involved. Actually, the syndrome is thyrotoxicosis exaggerated out of all proportion to the stimulus.

As the etiology is not understood, treatment is

*Postoperative thyroid storm. Postgrad. Med. 15:493-502, 1954.

symptomatic. The patient is placed in an oxygen tent. A refrigeration blanket may be used to reduce temperature. Ice water enemas and alcohol sponge baths are effective.

To slow thyroid activity, iodine is provided by 30 drops of Lugol's solution intravenously, or 10 drops in tap water by rectum, or sodium iodide may be given intravenously supplemented by 10 drops of Lugol's solution three times daily in chocolate milk by mouth. Chocolate milk and Karo syrup are given by Levin tube to protect hepatic glycogen reserve. Over 6,000 cc. of fluid plus salt may be required intravenously per day.

To reduce frantic muscular activity and hence lessen one cause of intense heat, sedatives are given in larger doses than required by other acutely ill patients. Prophylactic antibiotics or chemotherapy is used to avert intercurrent infection, and extra amounts of vitamins combat excessive loss.

Corticotropin, 20 to 30 mg. every six hours for five to eight days depending on eosinophil count, has been suggested.

Dramatic recovery in 1 case has been reported from use of spinal anesthesia, possibly by denervation of the adrenals.

Digitalis may be used if required. Thyroid patients have increased tolerance to the drug.

Sebaceous Cysts and Colonic Polyposis

MICHAEL C. OLDFIELD, M.B., GENERAL INFIRMARY, LEEDS, ENGLAND, describes a family in which multiple sebaceous cysts are associated with polyposis of the colon. The cysts, of varying size and scattered over the body, apparently are inherited as a dominant characteristic. The affected male of the second generation may have had a further gene mutation, because, of the 7 children of the third generation, 2 brothers and 1 sister had polyposis of the colon associated with sebaceous cysts. The sister and 1 of the brothers died of colonic cancer, which probably originated from the small lesions.

In the fourth generation, children of unaffected parents were free of the disorders. The 2 children of an affected parent were also free of the diseases, but the only child of another affected parent had cysts. If a gene mutation actually did occur, this child may have polyposis of the colon in young adulthood.

The first symptom of colonic polyps is blood in the stools. Sigmoidoscopic, roentgenographic, and postoperative examinations of specimens reveal polyps of a few millimeters to over 1 cm. in diameter, some pediculated, scattered over the entire colon.

Total colectomy is recommended for such patients to prevent bowel cancer.

The association of familial polyposis of the colon with multiple sebaceous cysts. Brit. J. Surg. 41:534-541, 1954.

Gastric Cancer and Pernicious Anemia

ROBERT F. SCHELL, M.D., MALCOLM B. DOCKERTY, M.D., AND MANDRED W. COMFORT, M.D.
Mayo Foundation and Clinic, Rochester, Minn.

*A diagnosis of pernicious anemia warrants radiologic examination for carcinoma of the stomach.**

MALIGNANT disease of the gastric mucosa occurs frequently enough in conjunction with pernicious anemia to suggest that anemia may be a predisposing factor. Diagnosis of the two conditions may be made simultaneously or anemia may be recognized several years before the gastric neoplasm. Occasionally, anemia is obscured by a superimposed blood loss from the stomach lesion.

Atrophy and hyperplasia of the mucosa accompany the gastritis of pernicious anemia. The hyperplasia occurs as mammillations of the mucous membrane; occasionally the elevations are sufficiently large to suggest sessile polyps. The epithelium resembles intestinal mucosa, and the formation of goblet cells and atrophy of the chief and parietal cells may be noted. Mucous cells hypertrophy, and some appear malignant. However, if the cells fail to penetrate the lamina propria, the area is considered benign.

The gastritis is found chiefly in the fundus and cardia. When carcinoma occurs, the most common position is also at these sites, in contrast to the usual gastric cancer which is situated in the pyloric antrum. Because of fundal establishment and the achlorhydria of patients with pernicious anemia, symptoms appear only when the carcinoma is far advanced.

The malignant lesions tend to have multiple centers of origin from the gastric mucosa, apparently supporting the thesis that gastritis associated with pernicious anemia is precancerous. Usually the carcinoma is polypoid and occurs in areas of severe epithelial hyperplasia.

Roentgen studies of the stomach, with special attention to the fundus and cardia, should be made at intervals in every patient with pernicious anemia. If polyps are found, the stomach should be explored im-

*Carcinoma of the stomach associated with pernicious anemia. Surg., Gynec. & Obst. 98:710-720, 1954.

mediately and a biopsy made whenever mammillations appear congregated in a small area. Only the surgical pathologist is qualified to differentiate benign from malignant polyps.

When carcinoma is observed by roentgenogram or gastrotomy, gastric resection is done. Total gastrectomy is probably wisest in these patients because of the incidence of carcinoma in the fundus and the possibility of multiple cancerous lesions. Carcinoma is often recurrent in the unresected portion of the stomach. When subtotal gastrectomy is done, however, biopsies should be made of all suspicious areas in representative portions of the stomach not removed.

Blood Changes with Metastatic Bone Cancer

HELEN QUINCY WOODWARD, PH.D., MEMORIAL CENTER FOR CANCER AND ALLIED DISEASES, NEW YORK CITY, reports that changes in the values of total serum protein, total serum calcium, and serum alkaline glycerophosphatase are significant with carcinoma metastases to bones.

The values for 699 patients with bone metastases were compared with those of 234 normal subjects, 283 patients with disseminated carcinoma not involving bone, and 83 patients with plasma-cell myelomas. Not all determinations were made for every patient.

The total serum protein was greater than 8 mg. per 100 cc. in 3.8% of patients with carcinoma of the breast without bone metastases, in 5.4% of patients with carcinoma of the breast with bone metastases, and in 53.7% of patients with plasma-cell myeloma. The other patients did not have increased serum protein. Hyperproteinemia with mammary cancer may be an unfavorable prognostic sign.

Hypercalcemia appeared for about 18% of patients with carcinoma of the breast with bone metastases. The total serum calcium became elevated in 9% of patients with carcinoma of the prostate with bone metastases and in 21% of those with plasma-cell myeloma. In half the latter, the calcium elevation comprised mainly the protein-bound fraction and in the remainder, the ionized fraction.

The most significant alteration of blood chemistry was the increase of serum alkaline phosphatase. About 90% of patients with carcinoma of the prostate with bone metastases and about 50% of those with metastases to bones from primary sites other than prostate had elevated serum alkaline phosphatase. Only 22% of patients with plasma-cell myeloma had increased serum alkaline phosphatase and the elevations were often rather slight.

Changes in blood chemistry associated with carcinoma metastatic to bone. Cancer 6:1219-1227, 1953.

Treatment of Hemangiomas

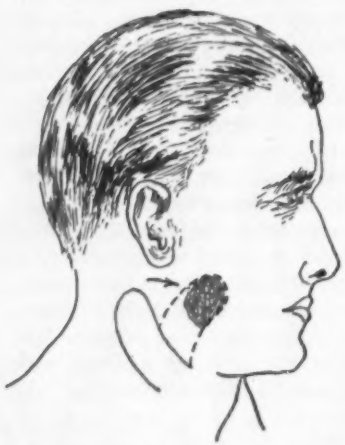
VARAZTAD H. KAZANJIAN, M.D., AND ARAM ROOPENIAN, M.D.
Boston

*Treatment of hemangiomas should include improvement in appearance as well as eradication of the lesions.**

SURGERY is generally necessary to destroy hemangiomas. Conservative procedures occasionally reduce the lesion and thereby simplify the operative procedure.

The *capillary* hemangioma, most frequently found about the face and neck, is superficial and consists of dilated capillaries. When the lesion is not extensive, the skin color varies from pale bluish red to dark purple. Skin texture is normal.

Use of cosmetics to conceal these lesions is generally more satisfactory than surgery, radiation, destruction by carbon dioxide snow, or tattooing.



However, surgery is advantageous for isolated lesions on the side of the face or neck because the loose, normal skin edges can be approximated after excision of the tumor without distorting facial contour. Lesions involving a large area on the lower sides of the face may also be excised, since a broad skin flap can be shifted from the side of the neck or from the postauricular region for repair. Operation is often satisfactory for elderly patients when the loose normal skin is used to replace the entire or greater part of the capillary hemangioma.

Venous hemangiomas, or strawberry marks, surgery is preferred, elevated, and sharply outlined from the surrounding tissue. The skin over the lesion is thin, shiny, and dark bluish red. The tumor is readily compressible and bleeds easily when traumatized.

For adult patients with strawberry marks, surgery is preferred, with repair by pedicled flaps from the surrounding healthy skin or by skin grafts. Radiation therapy should be used for children, but surgery is also necessary later to

*Clinical experience in the treatment of hemangiomata. Plast. & Reconstruct. Surg. 13:325-340, 1954.

correct the resulting surface deformity.

Nearly all *cavernous* hemangiomas are formed by large, irregular blood spaces that are connected. When the tumor is localized, as around the lips, the area is elevated and skin or mucosa is blue and readily compressible. If the mass is diffuse and deep seated, color changes are less evident. Sometimes a definite pulsation suggestive of arteriovenous aneurysm is felt and the skin has a pinkish hue.

Localized cavernous hemangiomas, especially among adults, are best treated by surgery. For diffuse lesions, roentgen-ray therapy, a sclerosing solution, or electrocoagulation reduces the growths and simplifies future surgery. Occasionally the operative procedure is precluded.

Hemorrhage, the greatest danger with surgery for hemangiomas, can be controlled by ligation of afferent and efferent vessels or by tying off or occluding the main arteries to the tumor. Clamps or sutures may be used in some areas. Electrocoagulation is also valuable but should be used with caution.

¶ COCONUT WATER FROM IMMATURE FRUIT may be safely infused intravenously but because of a diuretic action is useless for correcting dehydration. Although the potassium and magnesium content is high, B. Eiseman, M.D., of the University of Colorado, Denver, R. E. Lozano, M.D., of Tela, Honduras, and T. Hager of Washington University, St. Louis, find that these cations are nontoxic. Slight transient reactions, including pyrexia, urticaria, and headache, occurred in 11 of 157 subjects receiving infusions. In emergencies when pyrogen-free fluids are unavailable, the naturally sterile substance may be used as a source of potassium and calories or as a vehicle for added sodium salts in the treatment of hypovolemia.

Arch. Surg. 69:87-93, 1954.

¶ ACUTE CHOLECYSTITIS after unrelated surgery is one of the most common causes of acute abdominal disease in the postoperative period. Diagnosis and therapy are often delayed, especially after laparotomy when symptoms are ascribed to the operation. In a review of 21 cases, William Leon, M.D., of Louisiana State University, New Orleans, observes that the condition usually affects men over 50, and, although many patients have previous gallbladder symptoms, all do not have stones. Acute cholecystitis should be suspected when epigastric pain, nausea, vomiting, fever, and tenderness in the right subcostal area are noted postoperatively after a fasting period of two to four days.

Am. Surgeon 20:549-555, 1954.

Recognition of Glomus Tumors

E. S. J. KING, M.D.
University of Melbourne, Australia

*Diagnosis of glomus tumor is based on the histologic appearance or the localized pain caused by the nodule; ablation is the only effective treatment.**

THOUGH the skin and subcutaneous tissues are the most frequent sites of glomus tumors, the lesions may also originate in muscle, tendon, and bone and in deeper parts of the body. Multiple as well as single nodules occur.

Distribution of tumor sites, in order of frequency, are the arms, legs, trunk, neck, and face. The nodule may occur in the joints, mediastinum, or submucous tissues of the mouth.

The tumors are not neoplasms but malformations composed of a network of blood vessels. A layer of typical epithelioid glomus cells surrounds the vessels. The tumors may be less than 0.5 cm. to nearly 3 cm. in diameter, are ovoid or round in shape, usually smooth, and may be lobulated.

The ages of the patients vary widely but most glomus tumors seem to develop from the second to the fourth decades. More males than females are affected. Familial incidence is rare.

The lesion may cause severe pain, or discomfort may be slight or even lacking. Pain can be localized at the site of the tumor or a short distance away or involve an entire limb. Pressure upon the tumor or trigger points and changes in temperature may precipitate pain.

The disease produces few signs. Even the nodule is not always apparent. A limb with a glomus tumor may have a higher or a lower temperature than the contralateral limb. Osteoporosis of the bones, atrophy of the muscles, and thinning and atrophy of the skin sometimes occur in the region of the lesion.

The diagnosis is easily established when pain is associated with a red, purple, or blue nodule. When pain does not occur, diagnosis is rarely made before the tumor is removed and examined histologically.

The glomus tumor may show a preponderance of any of several types of cells so that histologic separation from angioma, fibroma, fibromyoma, and neurilemmoma, which may also cause severe, localized pain, is occasionally difficult. However, the number of typical glomus cells makes differentiation possible. Since the nodules are well circumscribed, complete removal is seldom difficult. Sympathectomy and roentgen-ray treatment are unsuccessful.

*Glomus tumor. Australian & New Zealand J. Surg. 23:280-295, 1954.

Treatment of Splenic Flexure Cancer

JOHN L. MADDEN, M.D., AND GORMAN J. MC VEIGH, M.D.
St. Clare's Hospital, New York City

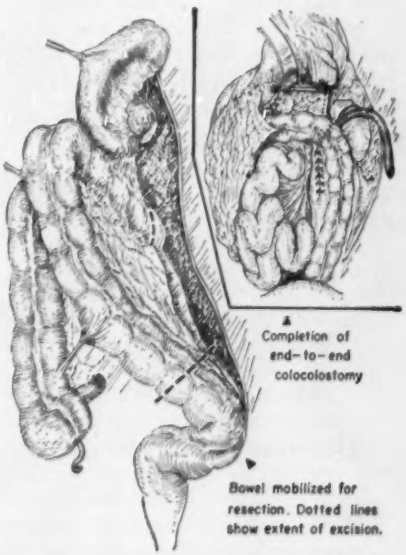
*Operation for carcinoma of the splenic flexure of the colon should include excision of the primary tumor and all the potential zone of lymphatic spread.**

CARCINOMA of the splenic flexure can drain into nodes in the hilum of the spleen, the transverse mesocolon, the omentum, the gastrocolic ligament, the mesentery of the descending and proximal sigmoid colon, and the tail of the pancreas. For adequate cancer dissection, all such structures must be removed.

The abdomen is entered through a left paramedian incision. If resection is required, the lesser sac is opened through the gastrocolic ligament.

Division of the ligament is made between clamps close to the stomach, until the proximal 75% of the greater curvature is mobilized. The lateral peritoneal attachment of the descending colon is then divided along the line of peritoneal fusion.

The colon is mobilized proximally around the splenic flexure where the phrenocolic ligament is transected (see illustration). Dissection is continued distally until the proximal third of the sigmoid is freed. The mobilization is carried medially to the aorta.



Division of the ligament of Treitz and adjacent mesentery is done to permit retraction of the proximal jejunum.

The splenic pedicle and tail of the pancreas are then exposed anteriorly by dividing the gastrosplenic ligament. After the spleen is retracted medially, the lienorenal ligament is cut across, exposing the posterior aspect of the pedicle. The spleen is then put back in the original position on a warm pack placed in the splenic bed.

By retracting the greater curva-

*The extension of operation in the treatment of carcinoma in the region of the splenic flexure. S. Clin. North America 34:523-535, 1954.

ture of the stomach upward and medially, the pancreas and splenic vessels can be seen, and the vessels are clamped and divided. The proximal vessel stumps are secured with a simple ligature and a suture ligature of 00 silk, and the pancreas is cut across. Proximal pancreatic hemostasis is achieved with Babcock clamps which are replaced with mattress sutures of silk. A curved clamp is applied to the distal cut surface.

The spleen and the part of the pancreas to be removed are covered in a gauze pad. The mesocolon is divided at the site of election, and the left colic artery is ligated and transected at the origin from the inferior mesenteric artery. A clean dissection is made of the inferior mesenteric artery, and, if necessary, the vessel is sacrificed.

Contamination precautions are taken before the intestine is opened. Babcock clamps are placed proximally on the transverse colon and distally on the sigmoid colon, and a Payr clamp is applied at each end of the bowel segment to be removed. The intestine is divided, and the colon, mesentery, omentum, and nodes are removed.

A 2-layer open colocolostomy is then performed, and all contaminated instruments, gloves, and drapes are discarded. The incision is closed around a Penrose drain placed retroperitoneally near the anastomosis.

Barium Appendicitis

JOHN A. GUBLER, M.D., AND ALBERT J. KUKRAL, M.D., VETERANS ADMINISTRATION HOSPITAL AND UNIVERSITY OF UTAH, SALT LAKE CITY, warn that prolonged retention of barium in the appendix may cause acute appendicitis that is difficult to diagnose and treat. As a preventive measure, repeat roentgen examinations may be advisable when a patient's appendix fills with barium during examinations. If the barium retention persists despite dietary regimen and mild catharsis, interval appendectomy may be advisable to prevent serious sequelae.

Severe abdominal pain developed in 4 patients who had had barium gastrointestinal examinations several months to years previously. Flat plates of the abdomen revealed opaque shadows in the appendical area. Appendectomies were performed. Barium was identified by light refractility in fecaliths removed from each appendix.

Many roentgenologists direct effort toward filling the appendix during gastrointestinal studies. The wisdom of such attempts may be questioned, since the diagnostic value of a barium-filled appendix is doubtful and frequently little attention is directed to whether the appendix completely empties.

Barium appendicitis. J. Internat. Coll. Surgeons 21:379-384, 1954.

Neck, Shoulder, and Arm Pain

BERNARD D. JUDOVICH, M.D., AND GOLDA R. NOBEL, M.D.
University of Pennsylvania, Philadelphia

*Difficulty in determining the cause or source of pain in the neck, chest, shoulder girdle, or upper extremity is the chief problem in providing relief.**

THE presence or even absence of a sensitive area is of significance in evaluation of pain of the neck, shoulder, and arm. When spinal sensory nerves are directly irritated, tenderness spreads distally from the point of irritation to the periphery, conforming to a pattern. Therefore, when entire skin sensory segments become tender and painful, the nerve or nerve roots are irritated. On the other hand, visceral disease may produce segmental pain but not segmental tenderness. If pleura or peritoneum is irritated, irregular areas of skin hyperesthesia develop.

Somatic pain may be divided into local and radiating pain. With local pain, tenderness, swelling, and limited motion are confined to a single area. Radiating pain, however, may be transmitted or reflex. Transmitted pain is due to root or trunk irritation in the course of the nerve by intrinsic nerve changes or by contiguous structures. The pain is carried along the course of a nerve with either a segmental or peripheral skin pattern, which can be determined by eliciting tenderness. Reflex pain is referred from an irritated somatic structure to a distant region within the same segment, which is not associated with pattern tenderness.

Treatment is based upon objective findings. Local pain requires direct study and therapy. With transmitted pain, attention is directed to the spine and surrounding areas if segmental nerve tenderness exists. With reflex pain, the involved segments are identified and all skeletal structures receiving nerve supply from this level are carefully examined for a local lesion.

Most brachial plexus pain is caused by osteoarthritis, degeneration and herniation of intervertebral disks, scalenus anticus syndrome, diabetic neuritis, malignant disease, trauma, or acute infection.

Limited or painful motion and localized tenderness are evidence of shoulder joint lesions. If the shoulder is normal, the cervical spine is examined. Pain is assumed to be vertebral in origin if accentuated by compression of the spine. If located in the extravertebral soft tissue, pain increases when the distressed structures are extended or stretched. With a cervical disk, however, the reverse is true.

*Pain problems of the neck, shoulder girdle, and upper extremity. Journal-Lancet 74:266-279, 1954.

If pain is not related to motion or position and examination of skeletal structures is negative, visceral referred pain should be suspected.

Primary scalene syndromes are those in which symptoms—spasm, hypertrophy, or myositis—occur after intrinsic disturbances of the anterior scalene muscle. Reflex scalene syndromes are due to irritation of structures other than the anterior scalene muscle.

Both primary and reflex scalene syndromes produce pain by compression of the subclavian artery or components of the cervicobrachial plexus. Compression of the anterior scalene muscle just above the clavicle causes intensified pain and distress as compared to pressure on the nonpainful side. Repeated procaine injections and surgery will give relief for primary types, but reflex types are only partially alleviated and the underlying cause must be sought.

The pain of cervical muscle spasm is due to compression of the nerve root or other sensitive structure. A sensory-motor or motor-motor reflex results, which causes spasticity of the muscles supplied by the particular root segment involved. Patients usually obtain good relief with the use of heavy intermittent traction.

Occipital pain and headache frequently can be relieved by anesthetizing the occipital artery. With vascular headache, an acutely tender point exists in the occiput, approximately midway between the tip of the mastoid and the midcervical spine. Rolling the tissues at this point while using deep pressure frequently causes reference of pain to the ear, face, orbit, or frontal or temporal region. To anesthetize the area, 3 cc. of 2% procaine is infiltrated into the point of greatest tenderness.

Pain in the interscapular region can be caused by herniated cervical disk, cervical rib and scalenus anticus syndrome, intercostal neuralgia, local disease, atypical pain from coronary disease, or visceral referred pain.

Intercostal neuralgia is diagnosed by locating segmental tenderness of the sensory dermatomes which correspond to the painful interscapular levels. Paravertebral nerve block stops pain and tenderness in a few minutes.

In some instances, pain originating from the heart is most intense in the interscapular region. Distress is commonly brought on by effort. Tenderness is usually absent, and attempts to reproduce the pain by movement of skeletal structures are negative.

Intractable interscapular pain may be due to lesions of the upper gastrointestinal tract, usually gastric or duodenal ulcers. Most symptoms are not referable to the gastrointestinal tract. Pain is often constant and may become severe during the night.

Tenderness to pressure and percussion over D6 and D7 spinous processes is a frequent sign. Areas of spot tenderness in the periphery of these levels may be associated. However, in some patients, no areas of tenderness are found.

Nearly all patients obtain relief from an ulcer regime.

Cerebral Vascular Accidents

LOUIS HAUSMAN, M.D.
Cornell University, New York City

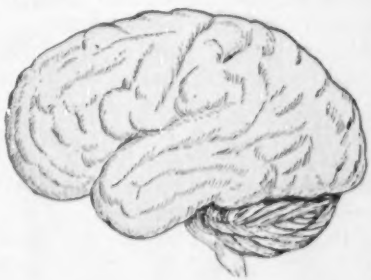
*Differentiation of rupture and occlusion of a vessel is vital to therapy of nontraumatic cerebral vascular accidents.**

SPONTANEOUS cerebral vascular accidents may be caused by hemorrhage, arterial or venous occlusion, or hypertensive encephalopathy. A space-occupying lesion must also be considered in diagnosis. Occasionally, an extracranial factor such as myocardial infarction causes cerebral manifestations.

HEMORRHAGE

Sudden, severe headache and excruciating neck pain are the initial symptoms of *subarachnoid hemorrhage*. The patient frequently loses consciousness and may have convulsions. Neurologic examination shows signs of meningeal irritation. Recent retinal hemorrhages may be noted. Spinal fluid is grossly bloody. Blood pressure may be normal or elevated.

With a *subcortical hemorrhage*, the patient is comatose, and focal signs reflect the site of the lesion. The spinal fluid is bloody if hemorrhage occurs into the ventricular system. However, bleeding may be into an encapsulated hematoma that acts as a space-occupying mass.



Surgical evacuation of the hematoma often gives good results.

Hemorrhage into the internal capsule produces sudden, complete contralateral hemiplegia with coma. As cerebral edema develops, additional sensory and motor disturbances occur. The secondary manifestations are transient unless bleeding is extensive or the common carotid artery is thrombosed.

ARTERIAL OCCLUSION

When *cerebral thrombosis* causes arterial occlusion, the syndrome varies according to the artery affected. Occlusion of the vertebral-basilar arteries produces paralysis of one or both sides of the body; decerebrate fits; blindness; and loss of consciousness. When the anterior cerebral arteries are occluded, motor and sensory functions of the lower extremities are lost; when the middle cerebral arteries are in-

*Differential diagnosis of spontaneous cerebral vascular accidents. M. Clin. North America 38:765-779, 1954.

volved, the upper extremities and face are affected.

Signs and symptoms of *internal carotid artery thrombosis* vary with the rapidity and site of occlusion and degree of collateral circulation. Onset may be sudden and simulate hemorrhage into the internal capsule, or various parts of the body may be affected hours or weeks apart. Sometimes symptoms occur repeatedly for a few minutes or hours at a time. Spinal fluid is clear; diagnosis must be based on cerebral angiographic examination.

Diagnosis of *cerebral embolism* as a cause of occlusion is confirmed by finding sources of embolism in other parts of the body, as, for example, valvular disease of the heart, auricular fibrillation, an intramural thrombus, or bacterial endocarditis.

Narrowing of the lumen by arteriosclerosis or atherosclerosis may produce cerebral manifestations, especially if the cerebral blood supply is impaired.

VENOUS OCCLUSION

Phlebothrombosis and thrombophlebitis may involve the cerebral venous circulation. Symptoms depend upon the vessel occluded. Pseudotumor symptoms of headache, papilledema, and other evidence of increased intracranial pressure may occur. Ventriculograms reveal small ventricles without displacement. The thrombus can be removed surgically.

ENCEPHALOPATHY

Increased intracranial tension, multiple miliary cerebral lesions, and large cerebral vascular accidents may occur with hypertensive encephalopathy. Miliary lesions produce transient but severe motor, sensory, visual, speech, and mental disturbances. The vascular accident may take the form of hemorrhage or encephalomalacia.

DIFFERENTIAL DIAGNOSIS

Previous disease of the patient may suggest the diagnosis; for example, a thrombotic process is likely with diabetes. The blood pressure level, state of cardiovascular system, onset and course of disease, and spinal fluid content aid in differentiating the causes of cerebral accidents.

Onset may be sudden with hemorrhage or thrombosis, but, when symptoms appear gradually, the lesion is probably thrombotic. The spinal fluid is clear with thrombosis but is bloody with cerebral hemorrhage, unless a subcortical hematoma is encapsulated. Spinal puncture should not be made when intracranial pressure is increased.

When the course of cerebral vascular accidents is progressive, a space-occupying lesion must be suspected. Headache, papilledema, and convulsive seizures may give clues but none is conclusive for differentiation between tumor and cerebral vascular accidents. Spinal fluid of patients with brain tumor may have an elevated protein content. Roentgen-ray examinations may be helpful. The pineal gland rarely shifts with vascular lesions. Calcification of an angioma or aneurysm may be seen. Electrocardiographic, arteriographic, or ventriculographic examination may be necessary.

Cystometry in Neurologic Diagnosis

REED M. NESBIT, M.D., AND WILLIAM C. BAUM, M.D.
University of Michigan, Ann Arbor

*The cystometrogram is a valuable adjunct to neurologic diagnosis, indicates effects of treatment, and may give data for prognosis.**

THE cystometer has been called the reflex hammer of bladder activity. Cystometry is a simple urologic approach to the neurologic investigation of diseases of the lumbrosacral cord and cortical or subcortical connections that affect vesical function. The tracings derived from such studies do not offer final diagnoses but serve as part of a comprehensive evaluation.

In using the cystometer, the following questions should be considered in an orderly manner to complete the urologic aspect of the neurologic survey:

• *Are the enteroceptive sensations intact?* Vesical sensations of pain and temperature are probably mediated over both sympathetic and parasympathetic nerves, synapse in the lumbrosacral segments, and are carried to thalamic levels in the lat-

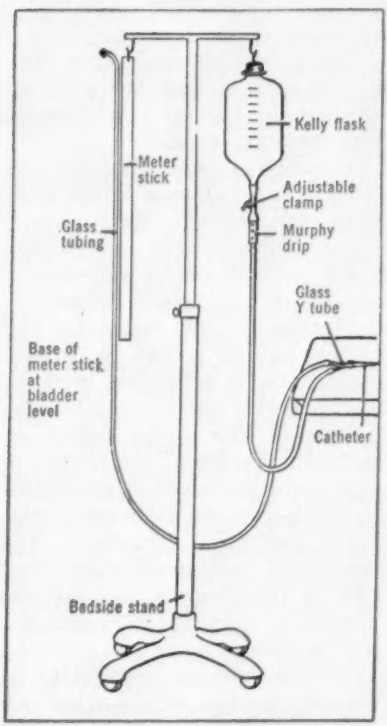
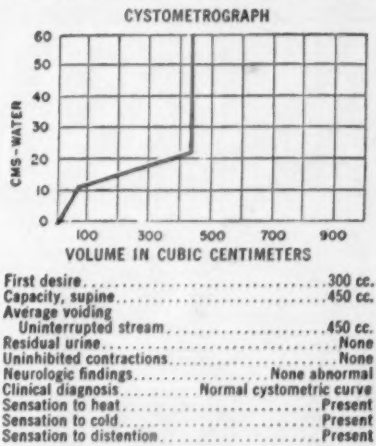


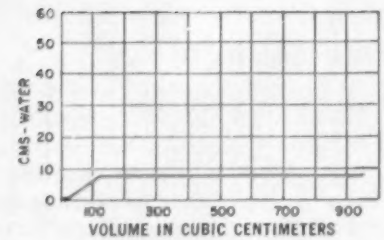
FIG. 1. *Valk cystometer*



First desire	300 cc.
Capacity, supine	450 cc.
Average voiding	
Uninterrupted stream	450 cc.
Residual urine	None
Uninhibited contractions	None
Neurologic findings	None abnormal
Clinical diagnosis	Normal cystometric curve
Sensation to heat	Present
Sensation to cold	Present
Sensation to distention	Present

FIG. 2. *Normal cystometrogram*

*Cystometry: its neurologic diagnostic implication. Neurology 4:190-199, 1954.



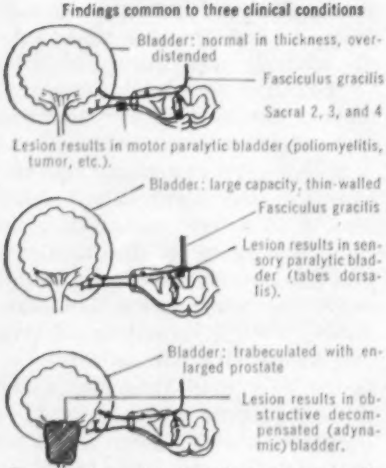


FIG. 3. *Three clinical entities associated with decreased or absent vesical detrusor activity*

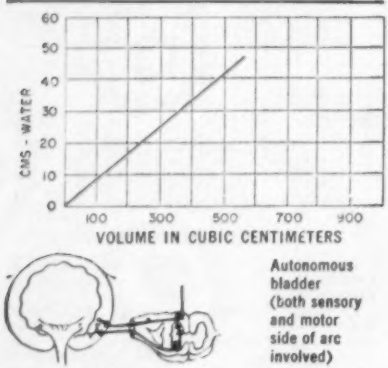


FIG. 4. *Autonomous neurogenic bladder: simultaneous involvement of sensory and motor divisions of lower motor neuron reflex arc*

eral spinothalamic fasciculus. The continuity of this pathway is determined by the introduction of hot and cold water into the bladder through a catheter. The healthy patient can differentiate the two and judge the degree.

• *Are proprioceptive sensations intact?* The sensations of filling, pressure, and desire to void depend on the pelvic nerves, posterior roots, and nuclei of the conus and reach cortical levels through the fasciculus gracilis. The continuity of this pathway is assayed by filling the bladder with progressive increments of water and noting both the volume at which response is given and the degree of the response.

With transverse myelitis, the urge to void may be lost but a vague sensation of fullness may remain. This sensation appears to be connected with sympathetic innervation and may originate in the peritoneal reflection over the bladder.

Cord involvement above the fourth or fifth dorsal segments is accompanied by complete loss of the feeling of fullness because the afferent pathways from the peritoneum are affected at that level. In lesions above this segment, bladder fullness is reflected by pathologic autonomic reflexes, especially in high cervical disease, demonstrated by profuse sweats, vasomotor instability, chilling, and headache. The integrity of the proprioceptive sensation is thus determined and the approximate disease level gauged.

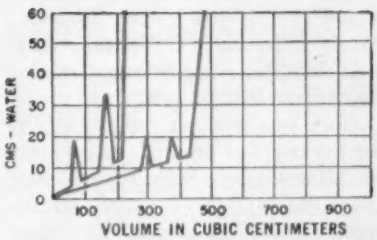
• *Is the lower sacral reflex arc intact?* The detrusor response to increasing amounts of water pressure reflects [1] the activity of smooth

muscle with inherent ability to maintain tone and resist stretch and [2] the integrity of the pelvic nerve whose origins lie in sacral segments 2, 3, and 4.

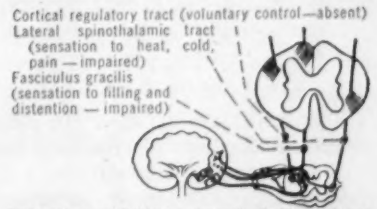
The simple Valk cystometer is employed for this test (Fig. 1). When water passes through the system at a constant rate, a normal cystometric curve is recorded (Fig. 2). The bladder accomplishes this by constant adjustment of musculature to the increasing volume, maintaining an intravesical pressure of 1 to 25 cm. of water. At capacity, motor impulses mediated over the efferent limb of the lower motor neuron reflex arc cause contractions increasing in amplitude until a final massive contraction occurs and the bladder empties without appreciable residual urine.

Various pathologic entities may produce similar cystometric curves. In general, 3 categories must be considered (Fig. 3): [1] a lesion involving the motor side of the lower reflex arc either at the anterior horn, as in poliomyelitis, or along the course of the pelvic nerve, as with surgical trauma or invasion by metastatic neoplasm; [2] a lesion involving the sensory side of the reflex arc, however contradictory this may seem, which can, as in tabes dorsalis, so reduce the perception of vesical fullness that the patient gradually decompensates the detrusor muscle by chronic overdistention; and [3] an obstructive lesion of the lower urinary tract, with production of an adynamic bladder.

To aid in the separation of these 3 categories producing similar cys-

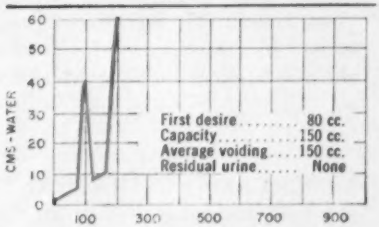


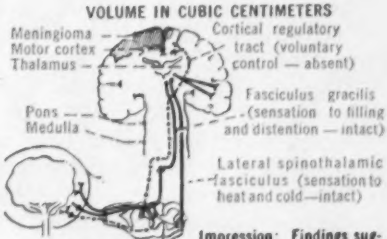
First desire..... 90 cc.
Capacity..... 200 cc.
Average voiding..... 200 cc.
Residual urine..... None



Impression: uninhibited neurogenic bladder with partial impairment of enteroceptive and proprioceptive sensation as well. Effective blockade by Banthine.

FIG. 5. *Uninhibited neurogenic bladder secondary to upper motor neuron disease: multiple sclerosis*





Impression: Findings suggest cerebral origin of loss of inhibitory control.

FIG. 6. *Uninhibited neurogenic bladder secondary to upper motor neuron disease: meningioma*

tometric curves, the following descriptive titles are used: [1] motor paralytic bladder, [2] sensory paralytic bladder, and [3] obstructive decompensated bladder.

Both sensory and motor sides of the lower reflex arc may be involved simultaneously (Fig. 4). In such cases the bladder is called autonomous, being possessed of inherent smooth muscle tone, resisting stretch, and therefore producing a straight line on the cystometrogram. • *Is the cortical regulatory tract intact?* Infants have uninhibited neurogenic bladders. As a child becomes trained, a higher center of suprasegmental inhibitory activity is mediated over the corticospinal system to exert effective control of reflex micturition. Disease of the corticospinal system, with interruption of this pathway, invariably results in a return, to various degrees, of the infant type of vesical behavior. Examples of such disease are multiple sclerosis (Fig. 5) and meningioma (Fig. 6).

¶ MULTIPLE SCLEROSIS patients may be somewhat benefited by sodium succinate. Remissions and exacerbations may appear during or after medication, but Henry A. Peters, M.D., and Hans H. Reese, M.D., of the University of Wisconsin, Madison, observe that euphoria and diminution of painful spasms may occur despite progression of the disease. The drug is given thrice daily in 10-gm. doses, either in capsules or dissolved in 3 to 5 oz. of water and followed by orange juice to mask the salty taste. Of 30 patients observed for a year, 1 died; in 2 the disease progressed; 3 terminated treatment because of side effects; the condition of 1 was unchanged; and 9 showed slight, 10 moderate, and 4 appreciable improvement.

Dis. Nerv. System 15:76-80, 1954.

¶ INCREASED INTRACRANIAL PRESSURE and communicating hydrocephalus may result from mechanical clogging of absorptive areas when any chronic process raises the protein content of the cerebrospinal fluid. These sequelae and papilledema associated with tumors along the cerebrospinal axis are attributed by W. James Gardner, M.D., and Charles Whitten, M.D., of the Cleveland Clinic and David K. Spitler, M.D., of St. Luke's Hospital, Cleveland, to escape of serum protein from blood vessels of the neoplasm and amassment of the molecules against the semipermeable brain-blood barrier. The process is reversible. In 3 cases, amelioration or subsidence followed, respectively, removal of a neurilemmoma of the acoustic nerve, excision of an ependymoma of the cauda equina, and subtemporal decompression in an instance of the Guillain-Barré syndrome complicating pregnancy.

New England J. Med. 250:932-936, 1954.

Signs of Pyramidal Tract Disease

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University of California, San Francisco

*Organic lesions of the nervous system and disease of the corticospinal or corticobulbar pathways can often be diagnosed by simple neurologic signs.**

ANY of the following 7 tests helps to detect an affection of the upper motor neuron and can be performed in the office or at the bedside with no discomfort for the patient.

1] The *winking-jaw test* is the best method for diagnosing a supranuclear lesion in the trigeminal pathways. The usual examination for corneal reflex is performed by touching the cornea sharply with a glass applicator. Normally, this results in closure of the eye. However, if the patient has supranuclear paralysis of the trigeminal muscles of one side, touching the cornea produces not only homolateral closure of the eye but also a brisk, short-range movement of the mandible to the opposite side.

2] To perform the *lid-vibration test,* the patient closes the eyes and the examiner places the thumb on the upper lid and delicately tries to open the patient's eye by moving the lid upward. The vibration felt under the physician's thumb varies with individuals and is more pronounced in persons with general nervous hyperirritability. This palpable vibration is lost with peripheral facial paralysis and returns very slowly to normal.

With chronic, insidiously progressive facial paralysis, such as that caused by pressure on the nerve by an angle tumor, diminution of the lid vibration may be the first sign of facial nerve involvement. With central facial paralysis, as with hemiplegia, diminution of vibration may persist many years after the patient has recovered. Slight facial paralysis revealed by the lid vibration test often verifies the diagnosis of multiple sclerosis.

Because the degree of palpable vibration is subjectively determined, the test should be repeated many times by placing the thumb at different horizontal levels on the eyelids while the patient exerts various degrees of strength in keeping the eyes closed.

3] The *orbicularis oris reflex,* elicited by stretching the muscle tissue around the mouth, cannot be demonstrated in the normal individual because the reflex threshold is too high. When hemiplegia affects the face, the orbicularis muscle is visibly contracted, particularly that of the upper lip.

4] The *knee-dropping test* is perhaps the most sensitive pyramidal sign. The patient lies supine with

*Pyramidal signs. Postgrad. Med. 15:405-409, 1954.

the legs slightly separated and flexed at the knees. The heels rest on a smooth slippery surface. With slight spastic hemiplegia, after both legs have remained in this position for some time, the affected leg slowly extends and the knee drops until the whole leg lies flat.

The test should be repeated with the legs bent at different degrees. If no dropping occurs at one degree, the test is made more sensitive by extending the legs at a more obtuse angle by tapping or pulling the surface on which the heels rest.

5] The *pendulous-legs test* is performed with the patient sitting on the edge of the examining table with the legs hanging freely. The examiner lifts both legs to the same horizontal level and allows the extremities to fall. The pendulum-like movement which occurs is then observed.

Extrapyramidal disease, particularly of the parkinsonian type, greatly diminishes the swinging time even with slight involvement early in the course of the disease. With affections of the peripheral neuron, swinging time is increased.

With extrapyramidal or peripheral affections, the swinging, as with normal patients, is in a sagittal plane with no lateral deviation. However, with pyramidal disease, the leg deviates laterally and makes circular, half-circular, and elliptiform movements. These motions may appear only at the end of the swinging. The greater the spasticity, the greater the tendency, speed, and range of the movements.

The character of the swing of the legs may also differentiate between spasticity and rigidity and thus aid in appraising the extrapyramidal component with spastic hemiplegia.

6] The *head-retraction reflex* is the most reliable test for diagnosis of a diffuse brain lesion involving both pyramidal pathways, such as hypertensive encephalopathy. To elicit the reflex, the patient relaxes the neck muscles while the head is kept slightly bent forward by the examiner's fingers placed on the patient's occiput. A sharp, quick, elastic tap is applied to the patient's upper lip with a reflex hammer, the blow being directed downward. The purpose is to cause a brisk further bending of the head.

Normally, this reflex cannot be elicited because the threshold is too high. However, with bilateral lesions of the pyramidal tracts, the central inhibition is removed and the reflex can be demonstrated.

7] *Dissociation of abdominal skin and muscle reflexes* is the most reliable sign of a pyramidal lesion above T-6. Abdominal skin reflexes, which consist of contractions of the abdominal muscles by irritation of the skin, should be distinguished from abdominal muscle reflexes, which consist of contractions by stretching of abdominal muscles.

Normally, both reflexes can be elicited, although the abdominal reflex may be weak. With a lesion of the thoracic spinal segments controlling the abdominal muscles, both reflexes are lost. With a lesion affecting both pyramidal tracts above T-6, the abdominal skin reflexes are lost and the abdominal muscle reflexes are exaggerated.

Pelvic Congestion and Pain

HOWARD C. TAYLOR, JR., M.D.
Columbia University, New York City

*A disturbance of vascular physiology may be responsible for much pelvic pain in women.**

LOWER abdominal pain is the principal presenting symptom of a complex designated as pelvic congestion.

The condition is frequently observed in women between 20 and 40 years of age.

The pain is usually suprapubic and often more severe on one side than the other. Discomfort is intensified by fatigue, standing, sexual intercourse, and nervous strain. Disturbances of the menstrual cycle may be noted.

Physical findings are slight in relation to severity of the subjective symptoms. Tenderness of the parametrium, especially the uterosacral ligaments, is the most consistent observation. Hypertrophy of the uterus may be caused by temporary congestion or permanent proliferation of connective or muscle tissues. The ovaries are often enlarged and the cervix almost always shows some degree of hypersecretion. At laparotomy the uterus is softened, slightly enlarged, and purplish or mottled in color. A recognizable edema of the subserosal connective tissue and sometimes of the ovary may be seen.

Variations in severity of symptoms may be related to changes in circulation. Improvement occurs almost invariably at the menopause when excessive vascularity in the genitals becomes impossible physiologically.

Pelvic vascular change as a psychosomatic disorder is supported by reactions of the vascular system to states of mind. Women with pelvic congestion are often emotionally unstable. Fatigue, situations of stress, and specific problems of the marriage relationship should be considered as etiologic factors.

Choice of therapy depends upon the age of the patient, reproductive history, duration and severity of symptoms, and occurrence of complicating organic disease. Patients with moderate discomfort of short duration are often benefited by simple reassurance that the condition is not serious or progressive.

In a few instances, surgery may be necessary to investigate possibility of neoplasm of the ovary. Hysterectomy is sometimes justified for a woman over 35 years of age who has had severe symptoms for a number of years and who desires no more children.

*Pelvic pain based on a vascular and autonomic nervous system disorder. Am. J. Obst. & Gynec. 67:1177-1196, 1954.

Urethral Diverticula in Females

C. RICHARD A. GILBERT, M.D., AND
FRANCISCO JOSÉ RIVERA CINTRÓN, M.D.
University of Puerto Rico and the San Juan Municipal Hospital, Santurce, Puerto Rico

*Closure of the ostium is more important than complete removal of the sac in treatment of diverticula of the female urethra.**

If antibiotic therapy does not eliminate female urinary tract infection, infected urethral diverticulum should be considered. The disease is fairly frequent, but diagnosis is often overlooked.

The etiology of urethral diverticula is unknown; both acquired and congenital lesions are seen. The wall of the sac is usually that of a chronic abscess, though the lining may be squamous, columnar, cuboid, transitional, or stratified squamous.

Dyspareunia is the chief symptom. Costovertebral pain, chills, fever, nocturia, frequency, and dysuria may also occur. The patient may have vaginal pain or dribbling of urine or pus after prolonged standing. Stranguria and urosepsis are frequent, and terminal hematuria or pyuria is noted occasionally.

During vaginal examination, pronounced tenderness is noted over the anterior vaginal wall. A pultaceous mass is usually palpable unless the diverticulum is near the internal urethral orifice; in such instances the mass may be indistinguishable from the bladder. Upon stripping the urethra, pus may flow from the external urethral meatus, especially if the orifice is large.

Diagnosis is usually confirmed by panendoscopic examination of the urethra. Urethrograms are made if small ostia cannot be located with a panendoscope. The orifice may be found anywhere along the urethra. Occasionally the sac surrounds the urethra.

Differential diagnosis includes Gartner's duct cyst, bladder diverticula, ectopic ureter entering the urethra, abscess of Skene's glands, pelvic inflammatory disease, endometriosis, gonorrheal urethritis, urinary tract tuberculosis, tumor, and suburethral varicosities.

*Urethral diverticula in the female: review of the subject and introduction of a different surgical approach. Am. J. Obst. & Gynec. 67:616-627, 1954.

To prevent recurrences, the ostium of the diverticulum into the urethra must be completely closed. As much of the sac as possible should be removed.

For removal of diverticula of the distal third of the urethra, an incision is made through the vaginal mucosa 1 cm. from the external urethral meatus and extended 4 cm. toward the cervix. The pubocervicovesical fascia is dissected from the vaginal mucosa laterally as far as possible on both sides. The diverticulum protrudes into the incision, and the sac can be dissected free and finally severed at the entry point into the urethra.

A suprapubic approach gives the best exposure and should be used for diverticula opening into the anterior portion of the proximal third of the urethra.

A ureteral catheter may be used to help outline the sac or locate the ostium when a diverticulum on any portion of the ureter is removed.

Interrupted sutures of No. 0000 chromic gut should be placed in 3 rows to close the ostium. Silk should not be used because calculi may form around nonabsorbable sutures. Urinary flow can be diverted from the operative site by keeping a catheter in the urethra for five days or longer.

Postoperative stress incontinence usually subsides spontaneously within three weeks. Urethrovaginal fistulas seldom occur if the urethral defect is adequately closed.

¶ CARCINOMA OF THE CERVIX may be treated by either surgery or irradiation with apparently similar results. Michael Newton, M.D., of the University of Pennsylvania, Philadelphia, compared 15 patients treated by radical panhysterectomy with 15 women given irradiation. The two groups showed little difference in rate of survival or recurrence of disease after an observation period of twenty-six months. Irradiation may be preferable because the technic is easier to standardize.

Surg., Gynec. & Obst. 99:29-33, 1954.

¶ VAGINAL BURNS from potassium permanganate may cause erosion of blood vessels, hemorrhage, and shock. Use of the drug for attempted self-abortion is increasing, but Marsh Steward, Jr., M.D., and Augusta Webster, M.D., of Cook County Hospital, Chicago, find that the substance is ineffectual for that purpose. The condition should be suspected when bleeding is profuse, bright red in color, and contains no tissue. Visual inspection is advisable in all cases of vaginal bleeding. Treatment comprises hemostasis, irrigation with sterile water or saline solution, vaginal packing, and, in some instances, blood transfusion.

Obst. & Gynec. 3:169-171, 1954.

The After-Care of Fractures

A. ZINOVIEFF, M.R.C.S.
University of Toronto

*A program to maintain and restore function after a bone is fractured should begin as soon as the plaster cast is dry and continue until the patient is discharged.**

An important principle of treatment for fracture is prevention of functional disability which may result from the injury and immobilization. A carefully planned program of exercise is essential to restoration of function.

A plaster cast should not immobilize fingers or toes unless specifically required by the fracture. A toe platform is of advantage only in nonweightbearing casts to provide resistance as an aid to exercise.

In a walking cast, gait should be as near normal as possible; therefore, rockers or steels should not be employed. The best gait is achieved with an overshoe such as the Ludun boot, which has a sloped sponge rubber insole to absorb the jar of walking in plaster.

As soon as the plaster is set, the patient begins hourly exercises which are continued until the cast is removed. Fingers should go through a full range of motion, using powerful flexion movements to cause contraction also in forearm and upper arm muscles. Toe movements should be strongly performed, also, to maintain musculature of the leg.

Static contractions of the deltoid are prescribed for an immobilized shoulder. With spinal fracture, spinal and abdominal muscles should be exercised. In case of hyperextension, strong contractions pulling away from the cast lessen abdominal distention.

After the cast is removed, full function of the injured part is restored by hourly exercises and active movement and use. When a reasonable range of motion is achieved, resistance exercises are begun.

In most cases, no other type of exercise is required. However, if full range is not attained after several weeks of repeated active effort, active assistance exercises may

Finger exercises help maintain musculature of immobilized arm

*The after-care of fractures. Arch. Phys. Med. 35:303-306, 1954.

be tried. Such exercises must be discontinued if definite pain results.

Passive movements resulting in pain also decrease range. Such therapy is limited to maintaining range of motion in a paralyzed limb.

Manipulation of stiff joints during anesthesia injures vital structures, and motion so gained is lost in forty-eight hours. Occasionally, when active mobilization is unsuccessful, a better position of function can be obtained by manipulation. The joint should be held in the new position by a cast until inflammation subsides.

Manipulation by the therapist as a mobilizing procedure is useful only when many small bones are involved, as with spine or foot fracture. The patient's efforts may be dissipated in moving joints already mobile while the stiff segment remains fixed.

Although of limited use, massage can loosen adherent recent scars, help control edema, and ease discomfort after exercise. If used, massage should be discontinued after a week or two.

Electrical stimulation of muscles is used only to diminish atrophy in paralyzed muscles or to assist the patient in getting the sense of a muscle movement. Heat may be applied to relieve pain as a preliminary to exercise. Hydrotherapy is useful, particularly in the early stages of treatment. Later, weight-bearing exercises, treadle or bicycle equipment, and remedial games aid recovery.

¶ LESIONS OF LUPUS ERYTHEMATOSUS may be benefited by local application of Panthoderm, a water-miscible cream containing 2% pantothenyl alcohol. Among 26 patients, Ashton L. Welsh, M.D., and Mitchell Ede, M.D., of Cincinnati found that topical medication enhanced the effect of massive oral doses of pantothenic acid and vitamin E in causing subsidence of erythema, lessening of infiltration and follicular plugging, and diminishing hypertrophy of the skin. Ulcerative oral lesions were especially benefited.

Arch. Dermat. & Syph. 69:732-734, 1954

¶ ATOPIC DERMATITIS is frequently associated with respiratory allergy caused by the same inhalant antigens. The condition is exacerbated by large amounts of allergens used therapeutically. H. Elias Diamond, M.D., of New York City finds that both the dermatosis and the hay fever or asthma are benefited by much smaller doses than commonly used. Treatment should begin with 0.05 cc. of 1:500 dilution of house dust, 0.1 unit of all pollens, 0.02 cc. of 1:120 or 1:240 dilution of trichophytin, and 0.02 cc. of 1:200 or 1:300 dilution of Oidiomycin; the last 2 preparations are given intradermally.

Ann. Allergy 11:146-156, 1953.

Focal Infection with Dermatosis

CARL T. NELSON, M.D.
Columbia University, New York City

*A chronic focus of infection may be a factor in the development of skin disease.**

TUBERCULIDS, syphilids, dermatophytids, and bacterids seem to be related to focal infection; localized bullous and infectious eczematoid eruptions, angioedema and chronic urticaria, erythema multiforme and nodosum, and simple purpura may also be associated.

That microorganisms or nitrogenous products from a chronic site of infection may produce distant secondary lesions has long been a matter of dispute. Such a role is not easily proved, but the concept is theoretically valid and cannot yet be discarded.

An etiologic relationship between a focal infection and a skin disturbance is proved when [1] the disease regresses after infection focus is removed; [2] the suspected focus harbors an organism that can produce a distant lesion; and [3] readministration of the microorganism or products of the agent reproduces or precipitates the lesion that was cured by removing the site of infection.

Conclusive proof is difficult to establish. Diseases believed to be of focal origin often are not eliminated when the primary site is destroyed. However, permanent tissue changes caused by the microbial products may preclude improvement.

Sometimes a focal infection cannot be demonstrated with an apparently secondary skin disease. Conversely, foci may exist among apparently healthy persons; however, the failure of a focus to produce distant lesions shows only that accessory or conditioning factors may be essential.

Chronic infectious foci may produce distant skin lesions by the following mechanisms:

- Organisms discharged into the blood or lymph streams may cause secondary infection by metastasis.
- Tissues at a focus may become sensitized to the nitrogenous products of bacterial metabolism and cause distant tissue reactions.
- A Shwartzman-like reaction may develop at a previously prepared inflammatory skin site when nonspecific microbial products are released from a primary nidus.
- The reaction of some bacteria with host tissue may produce antibodies against the altered tissue components and cause inflammatory changes.

Though the focus is an infection, a secondary skin disease is rarely due to metastasis but usually results from an allergic reaction.

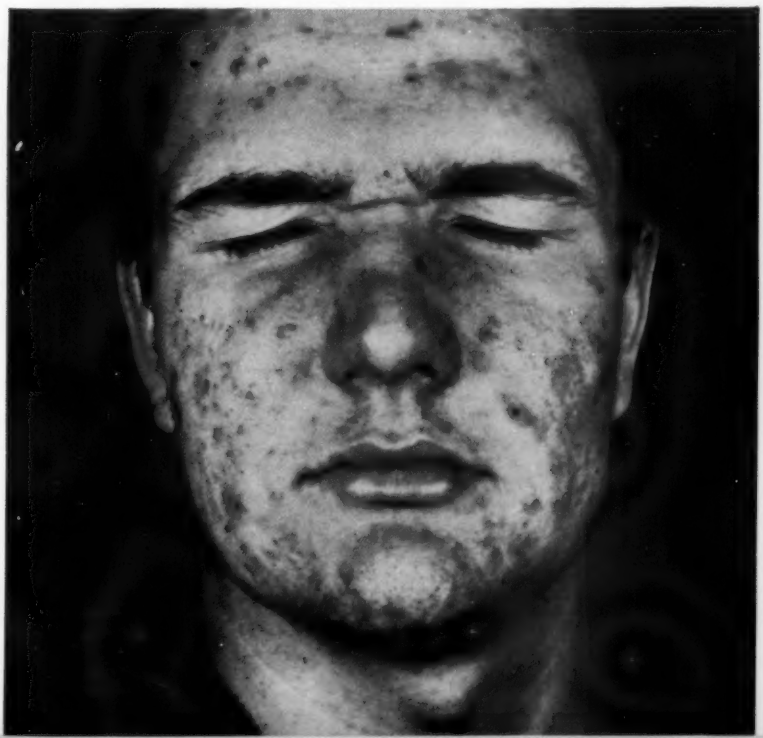
*Focal infection and diseases of the skin. Postgrad. Med. 15:557-560, 1954.

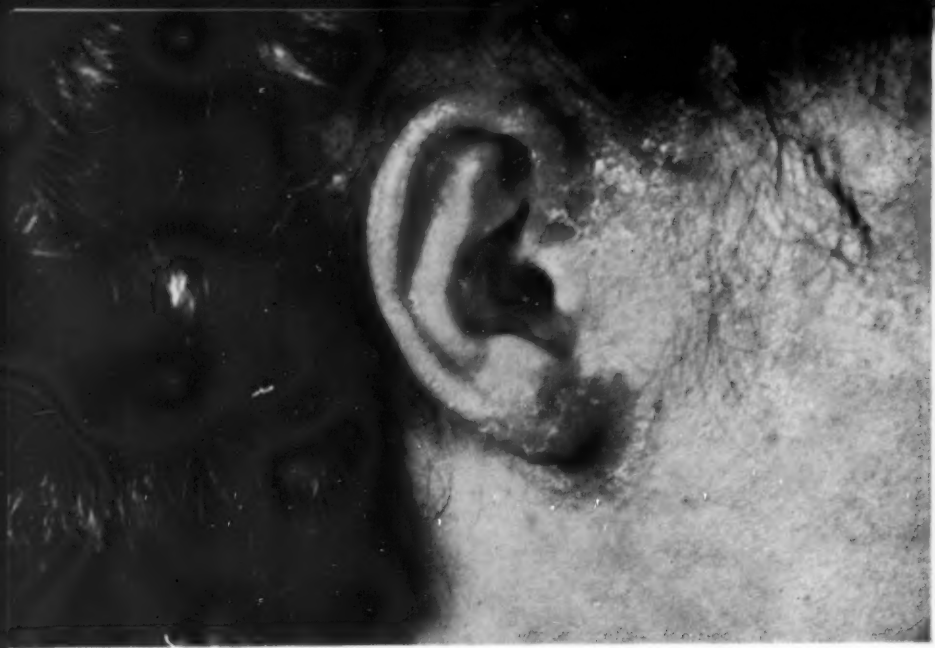
Commonly Encountered Dermatoses

CARL W. LAYMON, M.D., AND CHARLES J. BALOGH, M.D.
University of Minnesota and General Hospital, Minneapolis

AMONG the skin diseases that most frequently come under the care of the general practitioner are acne vulgaris, seborrheic eczema, herpes simplex, alopecia areata, dermatophytosis, herpes zoster, and psoriasis vulgaris. Photographs of typical cases, together with the now rare chancre of primary syphilis, are presented in natural color for ready identification. The photographs in this presentation were taken by Dr. Balogh.

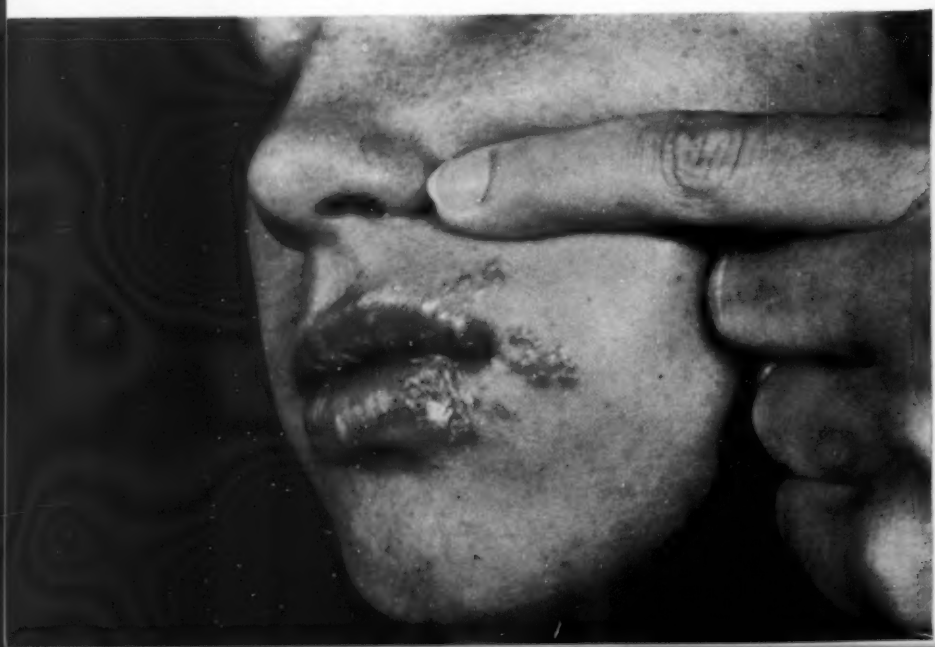
Acne vulgaris, shown below, is a chronic inflammatory disorder involving the sebaceous glands. The condition commonly appears between the ages of 12 and 18 on the face, chest, or back and is characterized by comedones, papules, pustules, and scars. The skin is usually oily.

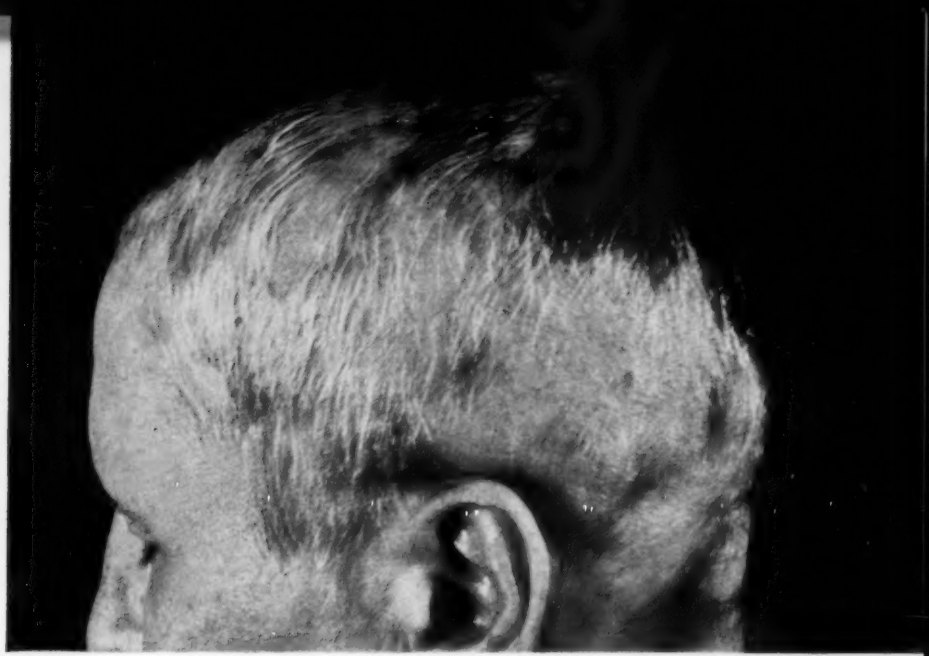




Seborrheic Eczema. The simplest form is manifested by dry or oily desquamation involving the scalp or ears. Lesions, usually eczematous, ooze and fissure. More severe cases involve the chest, back, extremities, groins, and intergluteal regions.

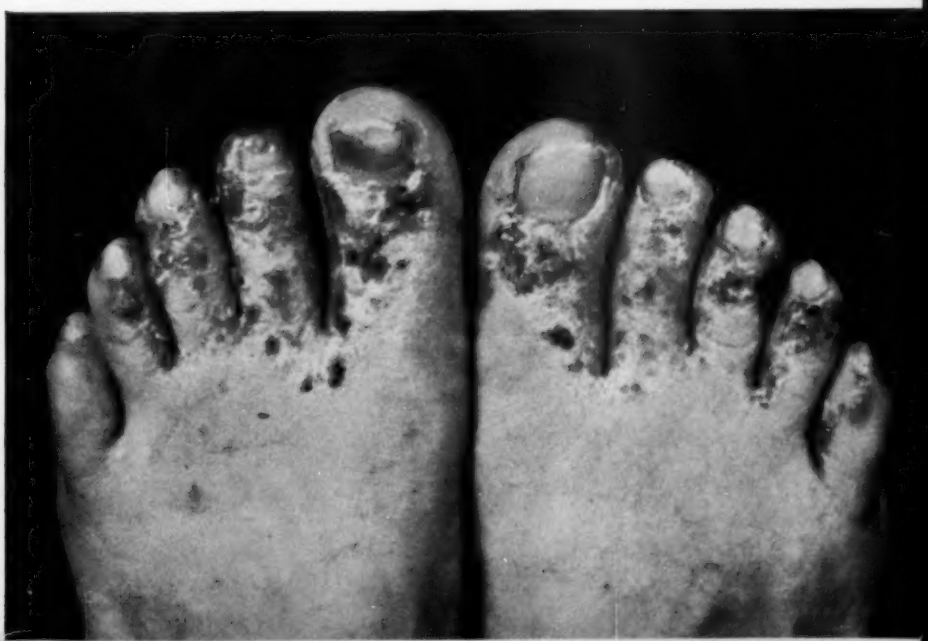
Herpes Simplex. This acute eruption of groups of small superficial vesicles usually appears on the face. Other areas may be affected. Usual course of the disease is a week or ten days. Scarring is rare. Recurrences are common.

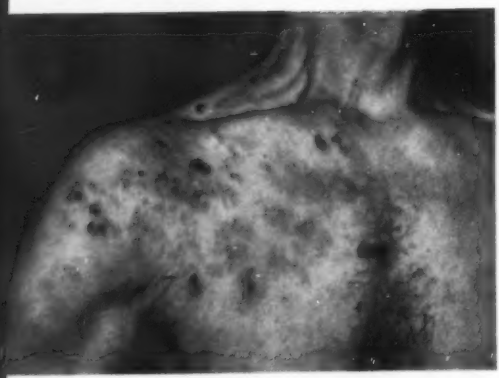




Alopecia Areata. Sudden loss of hair in one or more circumscribed patches occurs from an unknown cause. Prognosis is usually good, although hair rarely grows in before three months. The disorder may be permanent in middle-aged patients.

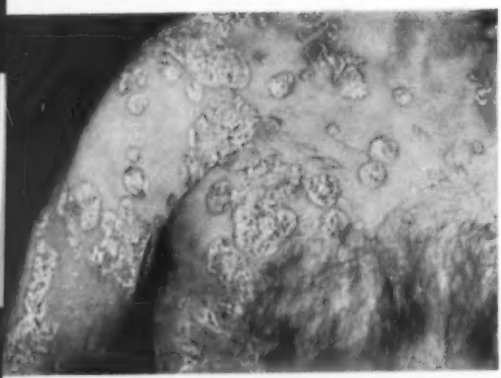
Dermatophytosis. Acute fungous infections of the feet are relatively common, especially in warm weather. The severity varies from fissuring and maceration between the toes to severe eczematous changes such as shown in the photograph below.





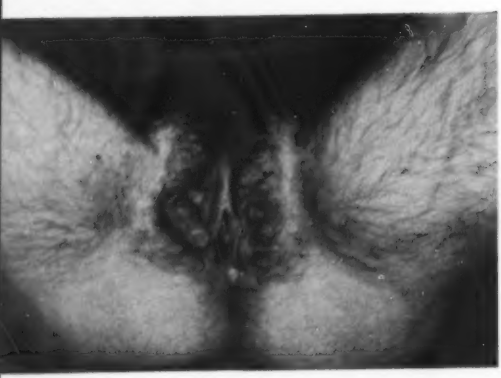
Herpes Zoster

This disease, produced by a virus thought to be closely related to one causing varicella, is characterized by grouped vesicles which are raised along the course of sensory nerves. The eruption is unilateral and may be accompanied by systemic symptoms such as fever and malaise. Lesions may become hemorrhagic or even gangrenous. Although self-limited, herpes zoster may be followed by severe pain at the former sites of the lesions, epecially in older individuals.



Psoriasis Vulgaris

In this disorder red, scaly, sharply demarcated plaques appear, usually on the elbows, knees, sacral region, and scalp. Usually chronic, psoriasis may occur as an acute exanthem. The disease is controllable but not curable. The cause is unknown. Scalp involvement does not cause loss of hair. The nails may be affected, and in some instances the disease may become universal.



Primary Syphilis (Chancre)

As is well known, syphilis has become a rare disease since the advent of the antibiotic drugs. This is a clinical example of a chancre in the female. The three chief characteristics of chancre are indolence, induration, and regional adenitis. The primary lesion appears approximately three weeks after exposure and is followed within five or six weeks by the secondary exanthem (roseola).

The Male Climacteric

A. W. SPENCE, M.D.
St. Bartholomew's Hospital, London

*Changes in endocrine function in the aging male have physiologic and psychiatric effects that combine to produce the male climacteric.**

Since the male experiences no sudden and clear-cut change in sexual function comparable to cessation of menstruation, the existence of a phenomenon homologous to the female climacteric has often been denied.

Some men demonstrate not only the clinical symptoms usually associated with the female climacteric, but also a decline in certain endocrine functions.

In both the eunuch and the climacteric male, libido and potency are usually diminished. Both may experience hot flushes, sweats, generalized weakness, lack of mental drive and energy, lessened powers of concentration, a sense of inferiority, and emotional instability.

Administration of testosterone often causes symptoms to subside or disappear. This effect has been called the result of suggestion, but placebos have not proved successful. Relief of neurotic symptoms may be a result of recovery of potency or of the direct anabolic effect of androgens.

Androgens promote the anabolism of protein and increase muscle bulk and strength. Weakness and fatigue of the castrate male may thus be explained. The effect of this hormone on the central nervous system is not known, although a menopausal woman taking testosterone has a sense of well-being.

Urinary excretion of 17-ketosteroids, an index of the amount of androgens produced by testicular and adrenal tissue, diminishes from a mean of 14 mg. every twenty-four hours among men of age 40 to 3.4 mg. in old age.

High levels of follicle-stimulating hormone of the anterior pituitary gland are found in the urine of men with primary hypogonadism, postmenopausal women, and elderly men with symptoms similar to those experienced by women at menopause. In contrast, elderly men without these symptoms usually have low hormone excretion.

Evidence supports the existence of a testicular hormone called "X." Estrogen in the female and the X hormone in the male are believed to be balanced by the follicle-stimulating hormone. Thus, in the compensated person, a fall in X hormone or estrogen is met by an increased production of follicle-stimulating hormone and lack of symptoms. Failure of such a counterbalance causes decompensation and gonadal failure.

*The male climacteric: is it an entity? Brit. M. J. 4875:1353-1355, 1954.

Therapy for Massive Rectal Prolapse

EDWARD T. NEWELL, JR., M.D.
Newell Hospital, Chattanooga, Tenn.

*Rectal procidentia is satisfactorily relieved by combined abdomino-perineal herniorrhaphy.**

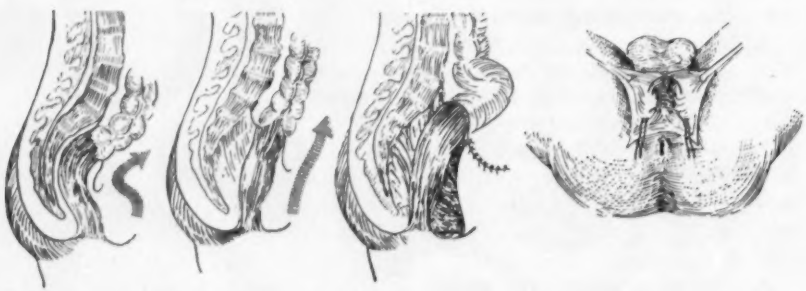
AN infrequent occurrence, massive prolapse of the rectum is actually an abdominal hernia with weakness and separation of the transversalis fascia and lengthening of the rectal suspensory ligaments. The levator ani muscles and the anal sphincter are gradually stretched. A peritoneal sac forms mainly in the cul-de-sac of Douglas, but redundancy of the anterior pelvic peritoneum may be noted at operation.

Procidentia usually first appears during straining at defecation and progresses until straining at work causes rectal protrusion. Ulceration and bleeding occur frequently, and severe anemia may be produced. Some rectal incontinence is usually associated. If the massive prolapse is not reduced, the bowel may strangulate.

Abdominoperineal repair of the prolapse, with some type of sigmoidal and rectal suspension, is safe and easy to perform. Recurrences of prolapse are few.

A lower midline abdominal incision is utilized. After pulling the sigmoid colon up snugly, a peritoneal incision is made on each side of the mesentery. The incisions are carried forward toward the bladder and brought together in the midline. Dissection is continued down around the sigmoid and rectum, avoiding the mesenteric blood supply.

Posteriorly, the rectum is freed from the hollow of the sacrum down to the tip of the coccyx by blunt dissection. Anteriorly, the rec-



*Combined abdomino-perineal herniorrhaphy for massive rectal prolapse. Ann. Surg. 139:864-869, 1954.

tum is separated in a similar fashion from the bladder and prostate. The rectum is then elevated and fixed to the sacral promontory and other points of the pelvis. After a few weeks, scarring in the hollow of the sacrum should keep the rectum elevated permanently.

The cul-de-sac is obliterated by suturing the rectovesical fascia and the anterior peritoneum snugly together anterior to the rectum. The abdomen is then closed.

If the perineum is relaxed and bulging, the patient is placed in a lithotomy position for perineal repair. A semilunar incision is made anterior to the rectum, and the levator ani muscles are visualized and sutured together. Plication of a relaxed anal sphincter may also be done.

Intravenous Choledochography Medium

T. L. ORLOFF, M.D., D. M. SKLAROFF, M.D., E. M. COHN, M.D., AND J. GERSHON-COHEN, M.D., ALBERT EINSTEIN MEDICAL CENTER, PHILADELPHIA, visualize the common and hepatic ducts after cholecystectomy with Cholografin, the disodium salt of N:N′ adipic-di (3-amino-2:4:6-triiodophenylcarboxylic acid).

The contrast medium is actively excreted by the liver cells and appears in the bowel a few minutes after intravenous injection. The common duct can be seen roentgenographically within twenty minutes, unless the patient has jaundice. In such instances, the compound is excreted by the kidneys in sufficient concentration to produce good urograms.

Examination is done in the morning with the patient fasting and with an empty bowel. During a period of six to ten minutes, 40 cc. of a 20% solution of the medium is injected intravenously. Films are made after twenty minutes with multiple films thereafter at different degrees of rotation. Films are made in the erect, recumbent, and lateral decubitus positions in order to visualize all parts of the common and hepatic ducts.

Local irritation results when tissues around the veins are injected inadvertently. Too rapid injection causes slight nausea, dizziness, sneezing, or restlessness. Intravenous tests for hypersensitivity, using 1 cc. of the medium, should always be done before injecting the full dose. With sphincteric relaxation, the concentration of Cholografin in the common duct can be improved with intramuscular injection of ⅙ gr. of morphine sulfate.

The common duct was visualized in 26 of 30 postcholecystectomy patients. Visualization was prevented in 4 patients with hyperbilirubinemia, lowered hepatic function, or both.

Intravenous choledochography with a new contrast medium, "Cholografin." Radiology 62:868-870, 1954.

Epiphyseal Stapling for Leg Deformities

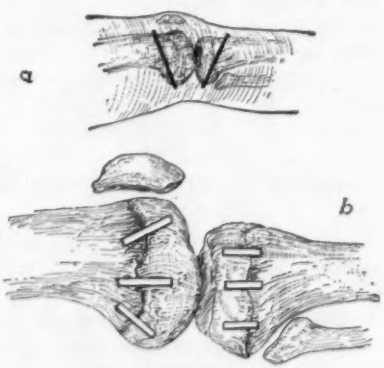
JAMES B. DALTON, JR., M.D., AND EARNEST B. CARPENTER, M.D.
Medical College of Virginia and Childrens' Hospital, Richmond

*Arrest of epiphyseal growth with metallic staples is invaluable for correction of linear and angular deformities of the legs.**

LENGTH of lower extremities can be equalized within narrow limits of accuracy, and knock-knees, bowlegs, and genu recurvatum may be corrected by stapling the distal femoral and proximal tibial epiphyses. If the shortening of the tibia and femur is symmetrical, both epiphyses may be stapled. For primary tibial or femoral shortening, growth should be arrested in the appropriate bone on the long side. If the patient is seen early enough, the femur rather than the tibia is stapled alone.

Errors of improper correction or overcorrection may be avoided by determining true bone age and obtaining exact measurements of both legs by preoperative roentgenographic examination. Bone and chronologic age may vary by as much as two years. The ideal time for surgery is from 9 to 10 years of age.

The type of staple is important. A satisfactory staple has spear points, is 3/32 in. in diameter, and is of 317 M stainless steel with a Rockwell hardness of 33 to 35 C. For the femur, staples of ⅞-in.



width with ⅝-in. legs are needed, while ⅝-in. width with ⅝-in. legs is preferable for the tibia.

An oblique mediolateral incision for exposure of the lower femur is begun at a point parallel to the proximal tip of the patella and extended approximately 3 in. For the proximal tibia, oblique incisions start from points medial and lateral to the tibial tubercle and extend proximally about 3 in. to the posterior aspect of the leg (Fig. *a*).

A pneumatic tourniquet enhances surgical exposure and lessens postoperative edema. The fascial layers are split toward the fibers, and the periosteum is exposed after mobilization of the overlying soft parts is achieved.

The epiphyseal line is accurately located by probing with a large

*Clinical experiences with epiphyseal stapling. South. M. J. 47:544-551, 1954.

needle. The first staple is inserted in the center of the epiphysis and driven halfway down. Equidistant staples are then placed on each side (Fig. *b*). The center staple in the lower femur is slightly distal to the other 2 metallic pieces. In the tibia, the center of the staples should be a little in front of the epiphyseal line.

The correct position is assured by roentgenograms in 2 projections. Staples are reinserted until placement is perfect and are then driven down. Small longitudinal incisions made in the periosteum permit the staples to be sunk flush with the periosteum.

After closure of the wound in layers, a cylindrical cast is applied. Ambulation with weightbearing is allowed as soon as pain and edema subside. The cast is removed in three weeks and active and passive motion of the knee is initiated.

Roentgenograms should be made three months postoperatively to determine the position of the staples. If growth is being arrested, slight spreading of the staple legs is visible. Extruding staples should be immediately removed and then reinserted.

Patients with angular deformities must be observed closely to avoid severe overcorrection and additional surgery for the induced deformity.

The proper time for removal of staples depends on growth factors, bone age, and the gait of the child. The growth rate after staples are removed is about the same as before the procedure, though the operation for removal of staples stimulates growth for a few months. With linear deformities, expected growth of both the stapled and short leg must be considered. Preoperative roentgenograms are compared with films made at the time of equalization.

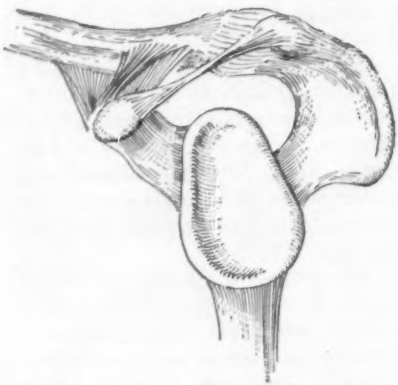
¶ SOFT-TISSUE INJURIES, including such conditions as hematoma, hemarthrosis, and edema of traumatic origin, are effectively treated by injection of hyaluronidase about the area. When the enzyme is used promptly in adequate dosage, John J. Gartland, M.D., of Jefferson Hospital, Philadelphia, and William R. MacAusland, Jr., M.D., of the Columbia University–Presbyterian Medical Center, New York City, find that impending Volkmann's ischemic contracture may be prevented without surgical procedure. The substance is the only efficacious agent against extravasations of blood in hemophilia. The dispersing action in acute arthrosis is not attended by bleeding. The medicament may forestall the development of myositis ossificans. Usually 1,500 turbidity-reducing units of the powdered enzyme are dissolved in 3 or 5 cc. of 1% procaine solution for use; each cubic centimeter of solution thus contains 300 or 500 turbidity-reducing units. No sensitivity reactions or toxic manifestations are attributable to the enzyme.

Arch. Surg. 68:305-314, 1954.

Acromioclavicular Dislocations

JOHN S. THIEMEYER, JR., M.D.
U. S. Naval Hospital, Portsmouth, Va.

*When living tissue is used for repair of chronic acromioclavicular joint dislocations, shoulder function is restored and no foreign material is left in the wound.**



THE rotatory and gliding motion of the clavicle may be preserved in reduction of symptomatic chronic dislocation of the acromioclavicular joint without sacrificing vital structures or using artificial material. The conoid and trapezoid ligaments are repaired with living tissue, which more nearly reproduces the damaged elements and is less likely to undergo calcific change or cause spur formation than such devices as screws or wires.

The use of metal has another disadvantage. Objects which can be demonstrated on roentgenograms encourage some patients to file disability claims later. Likewise, the removal of the whole or part of a bone or the wide incision required for fascia lata transplantation may foster insurance claims if the patient feels full function has not been restored. In such cases the judgment may be awarded to the patient even though the surgeon may consider the results as excellent.

The method outlined is designed to require only a small incision, to utilize repair material at the operative site, to remove no vital structure, and not to leave radiopaque substance in the wound.

With the patient anesthetized and supine, the entire involved shoulder is exposed. The incision is curved over the anterior border of the clavicle, beginning at a point above the tip of the coracoid process and carried over the acromioclavicular joint.

The deltoid insertion on the clavicle and the ligaments of the acromioclavicular joint are then exposed, and the ligaments are removed superiorly as a single flap. After removal of the disk and any local scar tissue so that clean bone may be visualized on either side, the

*A method of repair of symptomatic, chronic acromio-clavicular dislocation. Ann. Surg. 140:75-80, 1954.

joint is reduced, and 2 fine Kirschner wires are passed through the acromion into the clavicle to retain the reduction.

The superior surface of the coracoid process must next be exposed by blunt subperiosteal resection of the deltoid away from the clavicle. A flap of the hood of the coracoid process, measuring 1 cm. in width and 2 cm. in length, is dissected up from front to back, leaving a base attached to the coracoid. If necessary, the coracoacromial ligament may be detached from the acromial insertion and used instead.

The flap is then sutured to the roughened undersurface of the clavicle by passing chromic No. 0 sutures through 2 small drill holes. After secure plication of the acromioclavicular joint capsule, the deltoid is reattached to the clavicle and the wound is closed anatomically.

Postoperatively the extremity is left in a Velpeau dressing for six weeks, when the wires are removed. The patient is then given a sling and instructions for progressive shoulder and elbow motions.

Furacin for Chronic Otitis Media

J. C. PEELE, M.D., KINSTON, N.C., uses intensive Furacin therapy for cases of purulent discharge from the middle ear. Trichloracetic acid cautery is employed to stimulate closure of the tympanic perforation. These measures are often effective even when other methods have failed, the most responsive conditions being intermittent otitis and moderate or large opening of the membrana tensa.

Anhydrous 0.2% Furacin solution in a polyethylene glycol base is employed. After cleansing the ear with dry wipes or medicine dropper suction or both, the patient lies with the infected ear up and partly fills the canal with the solution. The patient maintains this position for fifteen minutes, exerting tragal pressure at intervals. A cotton tampon is then inserted and left in place for at least an hour. Treatment is continued three times daily until the ear has been dry for two weeks, unless sensitivity develops.

In weekly office visits, any large granulations are removed by snare. The ear is cleansed by suction and hydrogen peroxide or ether. Dried exudate on margins of the perforation is softened with peroxide and removed, if necessary, with a dull curet.

Edges of the opening and about 1 mm. of surrounding tympanic membrane are touched with a cotton-tipped applicator moistened with a 50% solution of trichloracetic acid. Blanching should occur; if not, the area is cleansed and acid again applied.

Anhydrous Furacin ear solution in the treatment of chronic suppurative otitis media with observations on the use of trichloracetic acid in the closure of tympanic membrane perforations. Laryngoscope 43:488-533, 1953.

Ovarian Tumors in Pregnant Women

GERALD W. GUSTAFSON, M.D.,* SPRAGUE H. GARDINER, M.D., AND FRANCIS E. STOUT, M.D.
Indiana University, Indianapolis

Removal of ovarian neoplasms can often be accomplished during pregnancy without sacrificing the fetus.†

More than a third of ovarian tumors are misdiagnosed during pregnancy and in the postpartum period. With a careful bimanual pelvic examination, most adnexal masses can be palpated in the first trimester, although about a fourth are incorrectly diagnosed.

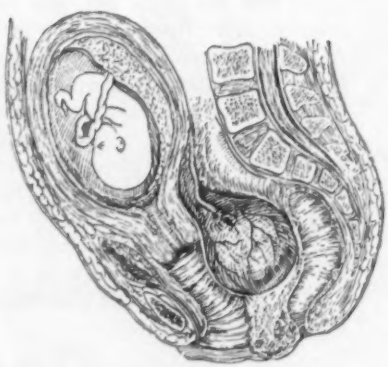
Difficulty may arise in differentiating an ectopic pregnancy from a corpus luteum cyst with intraperitoneal hemorrhage, or other ovarian tumors from uterine fibroids. The most common tumors are dermoid tumors, serous cystadenomas, corpus luteum cysts, pseudomucinous cystadenomas, and endometrial and parovarian cysts. The possibility of cancer must always be considered.

During the second trimester, an ovarian tumor can usually be palpated as a separate mass from the enlarging uterus. However, the correct diagnosis of ovarian neoplasms is almost never made during the third trimester, probably because of the size of the uterus.

Roentgenograms of the abdomen may aid differentiation of tumors. A mass outside the uterus with displacement of the fetal head; teeth or calcification in dermoid tumors; or a large mass not containing a fetal skeleton will often establish or confirm the diagnosis.

Surgery should be done in the first trimester when an acute abdominal crisis seems evident. In the second trimester, an adnexal lesion that becomes increasingly tender or an asymptomatic tumor that is 6 cm. or larger in diameter also will require operation. After surgery in the first or second trimester, the patient may be allowed to continue the pregnancy and be delivered vaginally without fear of wound disruption.

If an ovarian tumor 8 cm. or



*Deceased.
†Ovarian tumors complicating pregnancy. Am. J. Obst. & Gynec. 67:1210-1223, 1954.

larger is found near term in the third trimester, cesarean section should be performed and the tumor removed. The same should be done for tumors obstructing the birth canal during labor, since these lesions will be subjected to considerable pressure. An attempt to displace or collapse the lesion may cause rupture and peritonitis.

No deaths occurred among 45 women as the result of ovarian tumor surgery. Abdominal wounds healed well and withstood labor and delivery in 21 patients operated upon in the first and second trimesters.

The gross fetal mortality rate was 18%. No deaths resulted from surgery in the late third trimester; one stillbirth occurred after surgery during labor.

Neither the type of anesthesia given nor the surgical technic was correlated with the outcome of the pregnancy.

¶ CALCIUM BALANCE in pregnancy probably cannot be adequately maintained by diet. The depressive effect of phosphorus on the serum calcium level interdicts the use of dicalcium phosphate, but Milton Gross, Ph.D., Henry P. Wagner, M.D., and Martha Loving, M.D., of Margaret Hague Maternity Hospital, Jersey City, find that satisfactory concentrations of both minerals result when Calcisalin is given. The preparation, composed of calcium lactate, aluminum hydroxide, vitamins, and minerals, is effective in relieving tetanoid leg cramps, indicative of neuromuscular irritability, when 2 of the tablets are administered three times daily.

Bull. Margaret Hague Matern. Hosp. 6:107-112, 1953.

¶ PATENCY OF FALLOPIAN TUBES when insufflated with gas under pressure does not exclude inability to conceive due to disease of the cilia and fimbria. Ciliary and fimbrial activity is necessary for conveyance of the ovum and is continuous throughout the cycle. Albert Decker, M.D., and Wayne H. Decker, M.D., of Knickerbocker Hospital, New York City, measure the functional capacity by the ability of these elements to transport starch granules through the tube. A sterile suspension of Bio-sorb, a glove powder containing derivatives of cornstarch, is deposited over the fimbria or surface of the ovary by means of the operating culdoscope or by cul-de-sac needling. The cervical mucus is removed twenty-four hours later with an intracervical pipet, spread on a slide, and stained for two minutes with iodine. With healthy women the material stains blue; however, with atrophy or disease of the pelvic organs the reaction is negative.

Obst. & Gynec. 4:35-38, 1954.

Apparatus for Infant Resuscitation

JOHN MANN, M.D.
University of Toronto

*In infants with asphyxia neonatorum, tracheal intubation and oxygen to the open alveoli are provided by a manually controlled apparatus.**

ESTABLISHING and maintaining a free airway and supplying oxygen to the open alveoli are of prime importance in treatment for asphyxia neonatorum. Momentary application of high pressures to collapsed lung is unsafe. Regardless of the duration of increased pressure, gas will take the path of least resistance. Since more resistance is offered by collapsed alveoli than by normal lung tissue, pressure is directed to the already distended alveoli. Lung tissue is ruptured, and emphysema results.

By means of a special apparatus, oxygen is supplied only to the open alveoli. The range of positive and negative pressures provided overcomes surface tension of the collapsed alveoli which are capable of expansion. Oxygen is available until respiratory movements are initiated.

The apparatus is a self-contained unit on a heavy base and is entirely under the operator's control, which is a distinct advantage over automatic respirators. Oxygen is supplied from 2 tanks, 1 in operation and the other a spare, and is delivered to the resuscitation head through a standard reducing valve.

The head consists of a manually controlled suction bulb and a removable transparent plastic drainage trap. No mucus can enter the oxygen administering valve. The resuscitating valve is a simple positive and negative safety valve of ball-type, bronze construction. No washers, springs, or hinges are necessary. The valve is designed to deliver positive oxygen pressure of 12 mm. and a negative pressure of 8 mm. of mercury. No setting is necessary, and the pressures cannot be altered. Excess oxygen escapes into the air.

Administration of oxygen and the switch to negative pressure is regulated by a marked manual control. The rate of alternation from positive to negative pressure is under the operator's control. Negative pressure is created from the positive reduced tank pressure by a Venturi attachment. A mask is used when intubation is not necessary.

Before the apparatus is used, the airway must be free of fluid and mucus or other obstruction. Tracheal intubation is the only method of dealing with spasm and collapse of the glottis and absent reflexes and should be done gently. With catheter in place, the suction valve

*Some physical factors in resuscitation of the newborn and a controlled resuscitator. Brit. J. Phys. Med. 17:126-132, 1954.

is opened, bulb suction is applied to remove mucus, and the suction valve is then closed.

The method of intubation is not difficult. The child should lie with the back of the head flat on the table. The tip of the blade of an infant laryngoscope is inserted to the glottis and the handle then lifted vertically, bringing the glottis to view.

The catheters are in graduated diameters, and the length from hilt to tip is designed to permit adequate descent without encroachment on the coryna. Metal construction facilitates control, and the thin wall permits a large lumen. The hilt has a side handle which prevents obstruction of the field of vision during insertion.

The machine is set with the reducing valve registering an oxygen flow of 4 liters per minute. Alternating pressures are then started to produce respiratory movements. Alternations of 10 to 15 per minute are adequate and give the infant a much better chance to establish proper respiratory rate than more rapid artificial movements.

As long as the infant's color is improving, the depth of respiratory movements is of no concern. When respiration is established, the catheter is removed. Additional oxygen may be given by mask, if necessary.

Pregnancy Risks with Adrenal Disease

ARTHUR B. HUNT, M.D., AND WILLIAM M. MC CONAHEY, M.D., MAYO CLINIC, ROCHESTER, MINN., advise special precautions against sudden shock when pregnancy is associated either with adrenal hyperactivity or deficiency. Modern substitution therapy makes childbearing possible despite formerly prohibitive glandular disorders.

Adrenal cortical insufficiency may result from Addison's disease, after surgery for Cushing's syndrome, or from adrenal atrophy induced by cortisone treatment. Fertility may be restored by appropriate medication. If deficiency is not severe, hormones may be discontinued during gestation; urinary 17-ketosteroids and corticosteroids sometimes increase in spite of adrenal failure.

When labor begins, 200 mg. of cortisone is given intramuscularly. If acute insufficiency develops, cortisone solution and 1:10,000 norepinephrine may be injected intravenously. During the puerperium, intramuscular cortisone is supplied in decreasing amounts until the former maintenance level is reached. Then oral therapy is resumed.

Cortical or medullary hyperfunction, as with active Cushing's syndrome or from pheochromocytoma, may cause dangerous hypertension. Babies frequently die before or soon after birth, and some mothers have convulsions or fatal shock.

Pregnancy associated with diseases of the adrenal glands. Am. J. Obst. & Gynec. 66:970-987, 1953.

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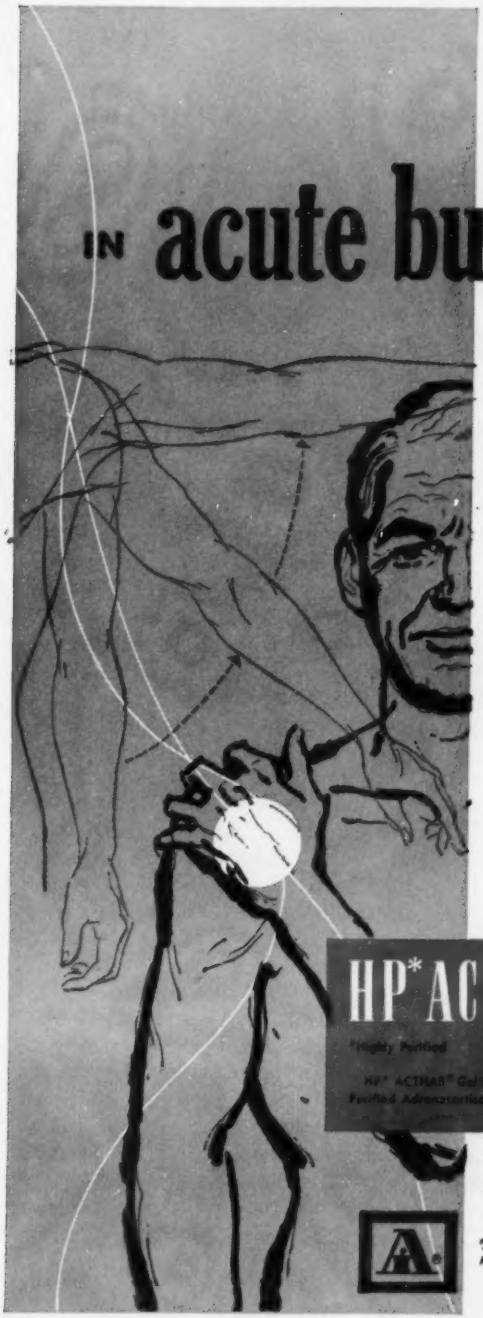

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SYMPOSIUM

Symposium on Ill Effects of Antibiotics

GEORGE A. PERERA, M.D., CARL T. NELSON, M.D., JOHN K. LATTIMER, M.D., ALVAN L. BARACH, M.D., AND CHARLES A. FLOOD, M.D.

Presbyterian Hospital and Columbia University, New York City

Introduction

GEORGE A. PERERA, M.D.

UNTOWARD reactions to antibiotics can be reduced in number but not entirely eliminated. Dermatologic, genitourinary, pulmonary, or gastrointestinal complications may arise, so methods of management should be understood.

Unpleasant possibilities for the future are that epidemics may be caused by resistant strains of organisms, more and more people will become sensitized or unresponsive to drugs, and incidence of such disorders as periarteritis nodosa and lupus erythematosus disseminatus may continue to mount.

Skin Complications

CARL T. NELSON, M.D.

ABOUT 4 or 5% of persons given antibiotics have skin reactions, chiefly of the allergic type. Lesions develop during treatment or soon after repetition with the same or a closely related compound. Eruptions usually worsen if therapy is not stopped.

The 6 most common forms are macular, urticarial, contact, mucosal, eczematous, and fixed or local.

1] Hypersensitivity frequently will produce a macular or maculopapular rash. The eruptions may be scarlatiniform or resemble erythema multiforme or, with intense or lengthy involvement, may become vesicular or purpuric.

2] Urticaria or angioedema develops alone or as part of a disturbance resembling serum sickness.

3] Eczematous dermatitis may concentrate in the groins or a former locale of athlete's foot or produce generalized exfoliation with much weeping and oozing.

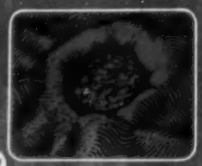
4] True contact dermatitis occurs in handlers of antibiotics and often after application of penicillin or streptomycin. Because ointments are sensitizers, local therapy should be limited largely to bacitracin, neomycin, gramicidin, and polymyxin, the least harmful.

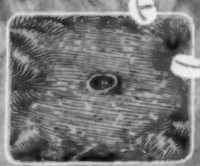
5] Oral complications are most numerous with the broad-spectrum agents, notably aureomycin, chloramphenicol, and Terramycin. The mucosa is inflamed, the tongue is swollen and denuded or black and hairy, and dermatitis sometimes occurs at angles of the mouth. *Candida albicans* is frequently cultured. Troches and lozenges cause

(Continued on page 146)

The management of complications of antibiotic therapy. Bull. New York Acad. Med. 30:538-558, 1954.

Peptic Ulcer therapy





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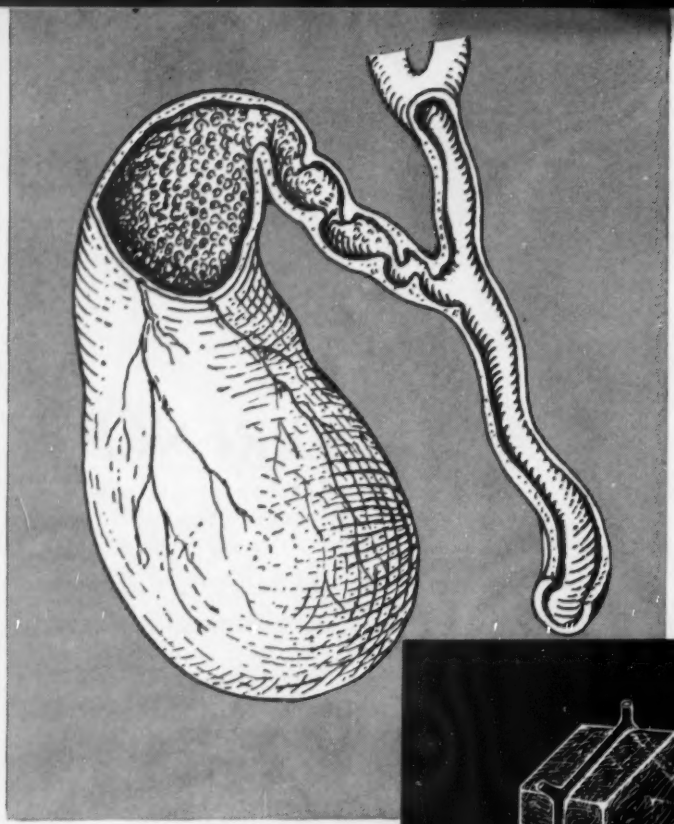
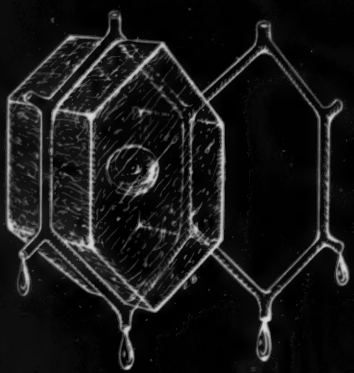
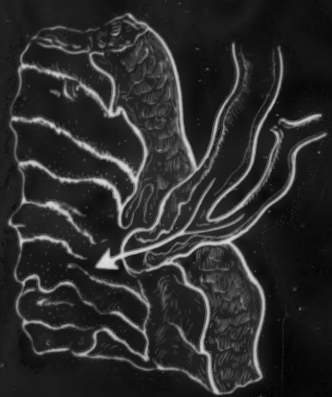


Gallbladder and ducts.



Modern conception of liver cell.

Ampulla of Vater and sphincter of Oddi.



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That the four bile acids present in Ketochol relieve biliary stasis is even more definitely proved by their use in the diagnosis of nonvisualized gallbladder. After the administration of Ketochol, repeat cholecystograms permitted[1] correct diagnoses.

In conjunction with the use of Ketochol for its hydrocholeretic action and Pavatrine for its antispasmodic effect, it is usually recommended that proper dietary restriction be enforced, milk and cream be employed as tolerated to encourage gallbladder emptying, and mental relaxation be provided. The combination Pavatrine with Phenobarbital is ideally suited for this latter purpose. This program of therapy serves a twofold aim: it provides corrective measures against the existing condition, and it counteracts the nervous "irritability" which is so frequently associated with gallbladder disease.

The average dose of Ketochol is one tablet three times daily with or following meals. The average dose of Pavatrine or Pavatrine with Phenobarbital is one or two tablets three or four times daily as needed. G. D. Searle & Co., Research in the Service of Medicine.

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1. Berg, A. M., and Hamilton, J. E.: A Method to Improve Roentgen Diagnosis of Biliary Diseases with Bile Acids, Surgery *32*:948 (Dec.) 1952.

reactions among 15 to 20% of users and should probably be discarded.

6] Parenteral therapy may produce fixed drug eruptions or local inflammation at sites of injection. With successive doses, reactions intensify and take on Arthus-like features.

The first remedy for skin complications is to withdraw the inciting drug. Hives and pruritus may be relieved by daily doses up to 400 or 600 mg. of Pyribenzamine or Benadryl, but antihistamines have little value for other cutaneous reactions.

Severe urticarial, vesicular or bullous, exfoliative, eczematous, or contact lesions improve with corticosteroids. For example, 300 mg. of cortisone is given daily for three days, then reduced by 50 mg. per day.

Morbilliform rash is relieved by a bland emollient like peanut oil or calamine liniment. Weeping or oozing surfaces require wet compresses of 5% aluminum acetate, diluted 1:30, or physiologic saline. Antihistamine lotions and ointments should not be used as sensitization may occur.

Treatment of stomatitis includes warm saline mouth washes and large doses of vitamin B complex.

Genitourinary Reactions

JOHN K. LATTIMER, M.D.

THE major genitourinary complications are monilial vaginitis from broad-spectrum therapy, urinary obstruction by sulfa crystals, drug resistance from early unwarranted medication, cholera-like reactions to staphylococcic overgrowth in the bowel, and direct antibiotic toxicity.

Monilial vaginitis and irritation about the urethral meatus usually affect postmenopausal women and start several days after chemotherapy is initiated. The chief complaint is burning with urination. Saline irrigations or douches are used for a day or two, then dilute silver nitrate, and finally 1% gentian violet on refractory areas.

Crystalluria may result from sulfadiazine or other relatively insoluble preparations. When large doses are used, alkaline compounds such as sodium bicarbonate must be given and fluids forced. Safer though less potent sulfonamides are Gantrisin, Elkosin, and triple forms.

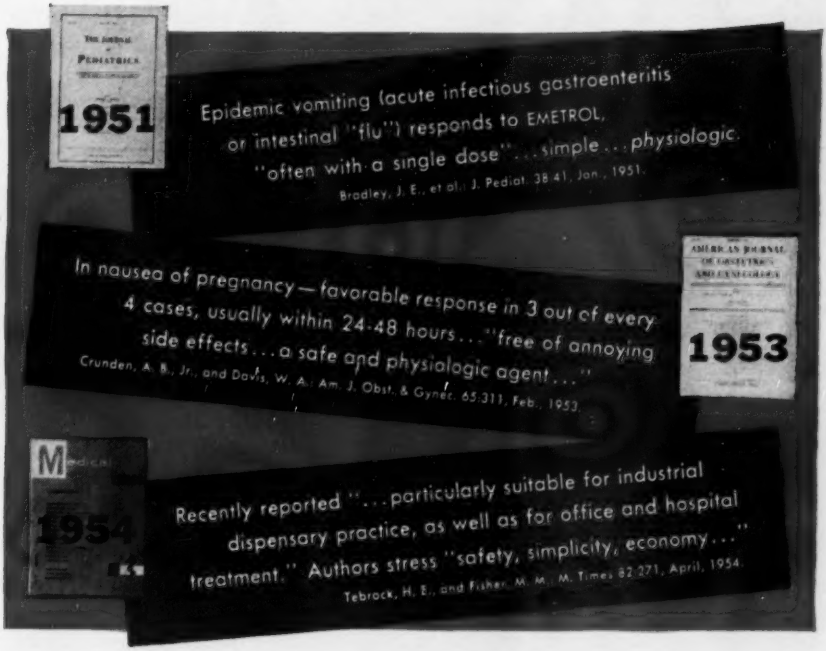
Should oliguria ensue, ureters and kidney pelves are cleansed by catheter and irrigated with sterile solution of sodium bicarbonate. Treatment of persistent anuria includes restriction of protein and potassium intake and maintenance of fluid balance. Hyperkalemia may be reduced by exchange resins.

Drug resistance is discovered in 25 to 50% of urine cultures obtained when slight urinary infections do not subside with small sulfa doses. If the organism proves recalcitrant to all but a few antibiotics, a search is made for complicating factors such as urinary stones and mechanical obstruction. The effective drug is saved for possible surgery and for clearance of residual postoperative infection.

Cholera-like reactions occasionally result when Terramycin, Neo-

THE EVIDENCE...

original and confirmatory



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bacin, or sulfathalidine is employed to sterilize the bowel before surgery. As other organisms succumb, staphylococci may flourish and cause fatal toxemia. Bacterial overgrowth should be detected promptly by culture during and after preoperative medication.

Direct toxicity may occur when renal tuberculosis is treated. If streptomycin is given only twice a week, ataxia is rare; elderly persons are susceptible but can be trained to substitute other functions for the impaired vestibular sense.

Both ataxia and deafness may be averted by half-and-half doses of streptomycin and dihydrostreptomycin. Isoniazid or streptomycin should never be used alone.

Isoniazid is a central nervous stimulant. When given to patients with severe renal dysfunction, the drug accumulates in the blood stream and induces a jittery state, sphincter spasm requiring Banthine for voiding, and, finally, hyperreflexia, convulsions, and even death.

For patients with moderate uremia, dosage should be lowered from the usual 300 mg. to 200 mg., or blood values should be watched. Epileptic patients must never receive isoniazid.

Complications with Respiratory Disease

ALVAN L. BARACH, M.D.

THE gravest antibiotic hazard is allergic reaction to parenteral penicillin therapy. Manifestations range from urticaria to fatal anaphylactic shock.

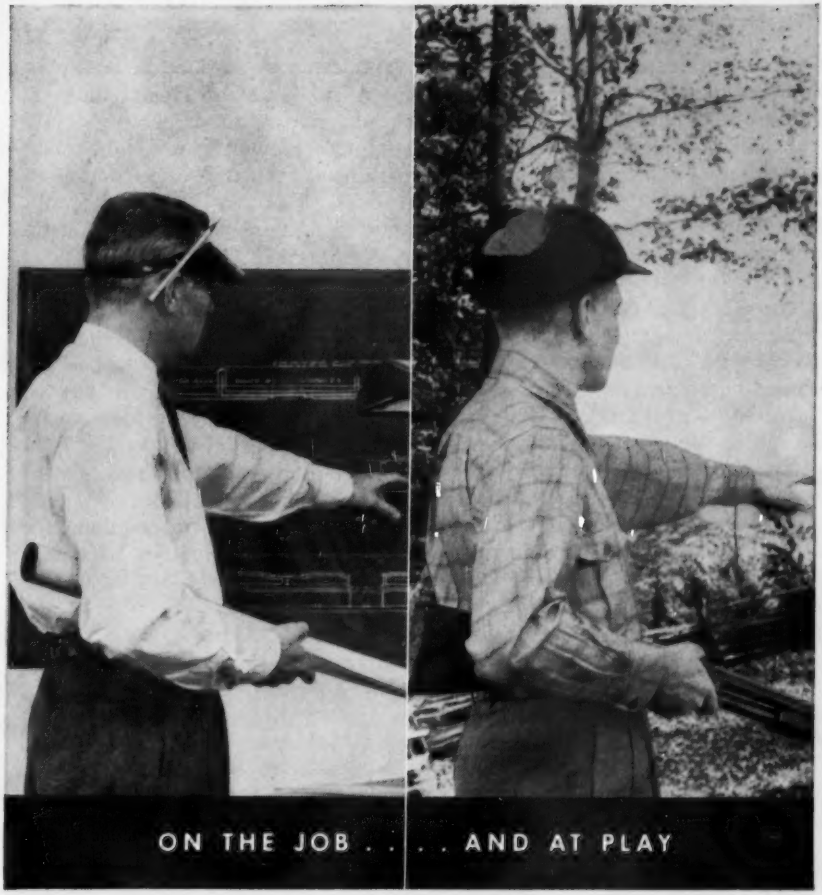
Artificial respiration, oxygen mixtures, intermittent positive pressure breathing, and intubation should be used for anaphylactic shock, which may involve severe bronchospasm and edema at the tongue base. Antiallergic drugs such as 0.3 cc. of 1:1,000 adrenalin solution, 50 mg. of Benadryl, or 10 mg. of Pyribenzamine are injected by vein or 20 mg. of ACTH is infused.

A severe reaction to penicillin can be practically eliminated by using the oral instead of the parenteral route. Reactions in the mouth are avoided by use of capsules or coated tablets.

Penicillin is the preferred drug for respiratory infection with gram-positive bacteria. Potassium penicillin G in doses of 1,000,000 units is given two or three times daily on an empty stomach orally for bronchial asthma and pulmonary emphysema and by aerosol technic for bronchiectasis and suppurative sinusitis. Antihistamine compounds, always advisable with intramuscular injections, should probably also be prescribed when oral therapy is used for persons with allergic tendencies.

Staphylococcus aureus is increasingly refractory to penicillin and broad-spectrum antibiotics, especially in hospitals. Sensitivity of bacteria in sputum always should be determined.

With bronchiectasis, staphylococci resistant to penicillin may be eradicated by 1,000,000 units of the drug daily by aerosol. Carbomycin, Erythromycin, or tetracycline may be employed if bacterial sensitivity has been confirmed. When resistance to these agents develops, strep-



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In a matter of minutes, PYRIDIUM reaches the site of inflammation with a soothing local analgesic action that brings prompt comfort to patients suffering from the pain, burning, frequency and urgency of urinary infections.

PYRIDIUM is compatible with sulfonamides and antibiotics and may be administered concomitantly to provide a dual therapeutic approach embracing symptomatic relief and anti-infective action.

SUPPLIED: 0.1 Gm. (1½ gr.) tablets, in vials of 12 and bottles of 50, 500, 1000.

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc. for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

SHARP & DOHME
Philadelphia 1, Pa.
Division of MERCK & CO., INC.

tomycin is injected intramuscularly, and large amounts of penicillin are swallowed or inhaled.

Friedländer infection may arise subsequent to penicillin treatment and requires mixtures such as Chloromycetin and Terramycin combined with sulfadiazine, streptomycin, or both. For other cases, polymyxin B and tetracycline are effective; the latter behaves like aureomycin but induces far less nausea and diarrhea.

Hemophilus influenzae is isolated in rabbit blood media and eradicated by carbomycin or Erythromycin. Caution must be employed when abandoning penicillin therapy. In treatment of chronic respiratory infection, sensitivity tests may be misleading. Gram-negative bacteria appearing on sputum-inoculated cultures a few days after nebulized penicillin is begun do not invariably indicate active gram-negative infection.

Treatment should be guided by the presence of pus cells in the sputum. If sputum is not suppurative, penicillin is probably removing staphylococci and streptococci and should be continued.

Broad-spectrum agents are suitable for gram-negative strains. Small amounts for long periods are better than short intensive courses. Suppurative bronchial infection often subsides when 750 to 1,000 mg. of Terramycin or aureomycin is given daily in 3 or 4 doses. Occasionally, 100-mg. tablets given seven times daily with milk or orange juice may be continued two or three weeks without provoking diarrhea.

Wide-range antibiotics administered in large prolonged dosage or during extreme debility may stimulate previously nonpathogenic organisms. When *Proteus* or *Pseudomonas* appears repeatedly and sputum remains purulent, the drug is discontinued.

Proteus overgrowth is reduced by Chloromycetin, streptomycin, or large amounts of penicillin. *Pseudomonas* may be controlled by polymyxin B; 200 mg. per day is injected intramuscularly for a week and 50 mg. daily is inhaled.

Antibiotic complications are less likely when bronchial drainage is assisted by head-down position, exsufflation with negative pressure, bronchodilating aerosols, and wetting agents.

Gastrointestinal Tract Side Effects

CHARLES A. FLOOD, M.D.

ANY part of the alimentary tract may be affected by antibiotics. Causes are obscure, and reactions are seldom important.

The most frequent symptoms are nausea, vomiting, diarrhea, and pruritus ani from aureomycin, Terramycin, or similar agents. The most serious effect is ulceration of the lower bowel.

Nausea probably results from direct irritation and is generally avoided by taking half a glass of milk with each dose. Other preventives are sodium carboxymethylcellulose and a mixture of mucin, aluminum hydroxide, and magnesium trisilicate.

(Continued on page 154)

why DESITIN®

hemorrhoidal

SUPPOSITORIES

with **cod liver oil**

are safe, conservative therapy in **hemorrhoids**

more effective . . . because they provide healing crude Norwegian cod liver oil (rich in vitamins A and D and unsaturated fatty acids, in proper ratio for maximum efficacy).

more comforting . . . emollient, protective, lubricant to relieve pain, itching and irritation rapidly . . . to minimize bleeding and reduce congestion.

safe, conservative . . . . . contain no styptics, narcotics or local anesthetics, so they will not mask serious rectal disease. Easy to insert and retain.

Composition of Desitin Suppositories: crude Norwegian cod liver oil, lanolin, zinc oxide, bismuth subgallate, balsam peru, cocoa butter base. Boxes of 12 foil wrapped suppositories.

for **samples,** please write . . . . **DESITIN** CHEMICAL COMPANY ●
70 Ship Street • Providence 2, R. I.

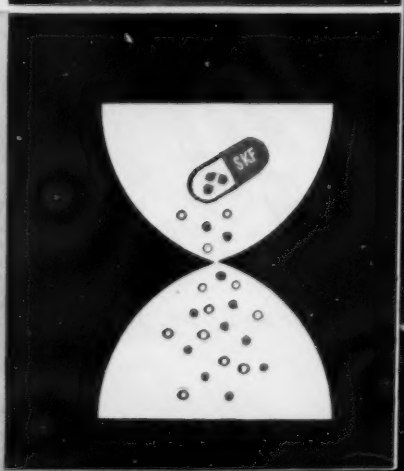
. . . a "confused" old lady

'Dexamyl' helped

. . . an extremely nervous man

(Photographs and excerpts of case histories from the files of a general practitioner.)

Remember: 'Dexamyl' is now available in the unique 'Spansule' capsule dosage form—to provide smooth, prolonged, uninterrupted mood-ameliorating effect for a period of 10-12 hours—*with just one oral dose.* 'Dexamyl' *Spansule* capsules are available in two strengths (see lower right, facing page).



Patient S. M. (80) was "plagued with nervousness, profound weakness, vertigo, and pain . . . add to this the untimely catastrophic death of a daughter." 'Dexamyl' relieved "her nervous uncertainty, her depressive weariness, her melancholia, and her tearfulness . . . also her vertigo . . . 'Dexamyl' helped her to smile again."

Patient L. H. (51) "had positive tremors of the eyelids, tongue, fingers, lips and voice . . . His complaints always centered about extreme nervousness, jitteriness, depression, and 'all-gone weakness'.
" 'Dexamyl' allayed inward tension . . . gave him a sensation of amelioration and comfort . . . Yet, even in this intensely irritable patient, there were no side effects . . .
"He is now able to work and support himself, which he was unable to do for several years."

Dexamyl*

tablets—elixir—Spansule† capsules

relieves both anxiety and depression—promotes a feeling of composure

'Dexamyl' provides the synergistic action of two mood-ameliorating components: 'Dexedrine' and amobarbital.

Tablets—each containing Dexedrine* Sulfate (dextroamphetamine sulfate, S.K.F.), 5 mg.; amobarbital, ½ gr. (32 mg.).

Elixir—each teaspoonful (5 cc.) equivalent to one Tablet.

'*Dexamyl*' Spansule (*No. 1*)—each containing the equivalent of *two* tablets: 'Dexedrine' Sulfate, 10 mg.; amobarbital, 1 gr. (65 mg.).

'*Dexamyl*' Spansule (*No. 2*)—each containing the equivalent of *three* tablets: 'Dexedrine' Sulfate, 15 mg.; amobarbital, 1½ gr. (97 mg.).

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

†T.M. Reg. U.S. Pat. Off. for S.K.F.'s brand of sustained release capsules (patent applied for)

Though actual stomach lesions are uncommon, aureomycin or chloramphenicol may cause true gastritis with edema, erosion, and hemorrhage.

Diarrhea, cramps, and tenesmus sometimes occur promptly but usually only after three or four days of therapy. Aureomycin or Terramycin is generally responsible, less frequently chloramphenicol, and occasionally penicillin. Symptoms apparently are related to change of intestinal flora and may persist for months after the agent is withdrawn.

Neomycin eliminates most fecal bacteria before intestinal surgery yet seldom provokes dysentery. Terramycin in oral doses of 250 mg. every twelve hours causes diarrhea in 7% of cases, but reactions are prevented or stopped by tablets containing lactic acid bacilli taken in milk three times a day. Intramuscular injection of 100 mg. every twelve hours yields adequate levels and disturbs the bowels in only 2% of instances.

Ulcerative proctitis and colitis occasionally develop; aureomycin may actually induce a condition that requires operation to save life.

Pseudomembranous colitis, a rare complication, involves severe diarrhea with shock and may be lethal in a few days. The bowel wall becomes inflamed and necrotic, apparently through staphylococcic action. The condition occurs during aureomycin, Terramycin, or combined penicillin and streptomycin therapy but also with no relation to antibiotics. Erythromycin should be administered when the disease is suspected.

Pruritus ani may be prevented by meticulous hygiene throughout medication. Treatment is based on presumed moniliasis and deficiency of vitamin B complex. Symptoms are relieved by yogurt or lactic acid bacilli. Locally, 1% gentian violet may be applied, and hydrocortisone ointment is recommended.

Biopsy of the liver during aureomycin or Terramycin therapy sometimes reveals fatty changes that apparently cause no symptoms. Urinary nitrogen rises, and negative nitrogen balance may occur. Though not prevented by methionine, fatty lesions disappear soon after treatment stops.

¶ PAIN OF MALIGNANT LESIONS and of other ailments not alleviated by analgesics and narcotics alone is often relieved when chlorpromazine is adjuvantly given. The depressant action of the drug occurs chiefly at the cortical and hypothalamic levels, but Max S. Sadove, M.D., and associates of the Veterans Administration Hospital, Hines, Ill., and the University of Illinois, Chicago, believe that the internuncial neurons are also affected. Oral administration of 25 mg. of the compound twice daily often permits halving of the dose of the opiate or synthetic similitude. Side effects include drowsiness, dryness of the mouth, pyrosis, and slight hypotension.

J.A.M.A. 155:626-628, 1954.

for "nervous indigestion"

consider

CO-ELORINE

(Tricyclamol Sulfate and Amobarbital, Lilly)

an improved anticholinergic with a mild sedative . . . . calms the patient and gives welcome, fast relief from abdominal distress.

FORMULA:

'Elorine Sulfate' (Tricyclamol Sulfate, Lilly).....25 mg.

'Amytal' (Amobarbital, Lilly)..... 8 mg.

DOSE: 1 to 3 pulvules three to four times a day.

ELI LILLY AND COMPANY, INDIANAPOLIS 6, INDIANA, U.S.A.

Therapy for Erythroblastosis Fetalis

FELIX FELDMAN, M.D., HERBERT C. LICHTMAN, M.D., AND VICTOR GINSBERG, M.D.
Brooklyn

*For best results, replacement transfusion for erythroblastosis fetalis should be done wtihin twenty-four hours after birth.**

MANY infants with erythroblastosis fetalis appear healthy at birth but become gravely ill within twenty-four to seventy-two hours. Because severe damage may occur very quickly, a method of treatment must be chosen as rapidly as possible.

Although a negative Coombs reaction accurately eliminates a diagnosis of erythroblastosis, a positive reaction is insufficient to justify exchange transfusion. When found in conjunction with any one of the following criteria, however, exchange therapy should be done immediately:

1] Cord blood hemoglobin level below 15.5 gm.

2] Pallor, jaundice, edema, or hepatosplenomegaly during the first twenty-four hours of life

3] Progressively falling hemoglobin levels or rising reticulocyte, normoblast, or white cell counts.

Labor should be induced after the thirty-eighth week of gestation in mothers who have previously borne affected infants. If the Coombs reaction is positive in such cases, replacement transfusion should be done immediately.

TECHNIC

A complete blood count, Coombs test, blood type, and Rh determination are made on oxalated cord blood at birth, and physical examination of the infant is made. Replacement transfusion is done within the first eight hours of life, if possible, and rarely after twenty-four hours. The procedure is performed on the obstetric floor so that the infant may be returned to the regular nursery rather than the pediatric floor where the possibility of secondary infection is greater.

The stomach is aspirated as a prophylactic measure. A polyethylene catheter is inserted in the umbilical vein, and 50 cc. of blood is withdrawn to insure efficient exchange unless an initial transfusion is required because of low hemoglobin. Type specific Rh-negative whole blood, less than thirty-six hours old, is used exclusively, without regard to the donor's sex.

The blood is exchanged in amounts of 20 to 50 cc., until 50 to 60 cc. per pound of body weight is transfused. For each 100 to 150 cc. of blood exchanged, 100 mg.

*The treatment of erythroblastosis fetalis with replacement transfusion. J. Pediat. 44:181-190, 1954.

NEW— a *sheer* elastic stocking that gives perfect support, too

Bauer & Black De Luxe nylons exert therapeutically correct pressure from ankle to thigh—yet look like fine hosiery on the leg.

You can be sure your patient will follow the elastic stocking regimen you prescribe when she wears Bauer & Black *Sheer* De Luxe nylons. They are truly inconspicuous—so sheer that your patient can wear them without overhose.

And you can be sure she's getting correct support, too. Bauer & Black Elastic Stockings are fashioned to the shape of the leg to assure proper remedial support at every point. Pressure diminishes gradually from ankle to thigh, gently speeding venous flow.

Fashionable light shade won't discolor. Light and cool. Easy to wash. Quick drying. Open toe for freedom and comfort.

You make certain of both correct support *and* patient cooperation when you prescribe Bauer & Black stockings. That's why more doctors prescribe them than any other brand.

BAUER & BLACK

ELASTIC STOCKINGS

Division of The Kendall Company
309 W. Jackson Blvd., Chicago 6, Ill.

FASHIONED FOR THERAPEUTICALLY CORRECT SUPPORT

BAUER & BLACK FASHIONED STOCKING knitted with rear-fashioning seam so that pressure is adjusted to leg contours, avoiding undesirable constriction. Pressure decreases gradually from ankle up, thus gently speeding circulation.

Shading indicates correct pressure pattern of Bauer & Black Elastic Stocking.

of calcium gluconate is injected and, after completion of therapy, another 500 cc. is given.

The entire procedure is done in a heated crib. Oxygen is administered when required. The infant is given penicillin for three days with careful attention to postoperative hydration. Additional transfusions are done when the red cell count falls below 2,500,000 and the hemoglobin decreases to 7.5 gm. per cent.

Of 106 infants treated in this manner, 7 died, a mortality rate of 6.6%. More than half of the patients required no supplementary transfusion, although all became jaundiced postoperatively. In some infants, the hemoglobin dropped as low as 7 to 8 gm. at seven to eight weeks, but by the end of three months all showed a steady rise in hemoglobin and red cells.

Only a single instance of kernicterus has been observed among the surviving infants after three years of observation.

Lead Poisoning of Children

RANDOLPH K. BYERS, M.D., AND CLARENCE A. MALOOF, M.D., HARVARD UNIVERSITY, AND MARGARET CUSHMAN, M.A., MASSACHUSETTS DIVISION OF OCCUPATIONAL HYGIENE, BOSTON, determine twenty-four-hour urinary lead excretion to differentiate plumbism from similar pediatric illnesses. Incorrect diagnosis based on characteristic roentgenograms and the fact that the infant has been chewing on paint or varnish is thus avoided.

Quantitative estimations of twenty-four-hour urinary output of lead were done on 68 children between the ages of 6 months and 14 years. The procedure used was a modification of Fairhall's micromethod of analysis. Dithizon was used for initial separation of lead from urine, and lead was then extracted from the dithizon and estimated as the dichromate.

Excretion of more than 80 γ of lead per twenty-four hours is indicative of lead poisoning in children with adequate renal blood flow. Values between 55 and 80 γ indicate the possibility of toxicity, and levels below 55 γ usually exclude lead poisoning.

Patients with plumbism also have at least 3 of the following major signs: [1] secondary anemia with stippling, [2] central or peripheral nervous system involvement, [3] roentgenologic evidence of condensation in the zones of provisional calcification in long bones, [4] glycosuria with normal blood sugar, [5] abdominal complaints, and [6] chemical identification of the source of lead.

After a year or more of protection from lead ingestion, urinary excretion of lead in patients with known intoxication falls within the normal range.

Urinary excretion of lead in children. Am. J. Dis. Child. 87:548-558, 1954.

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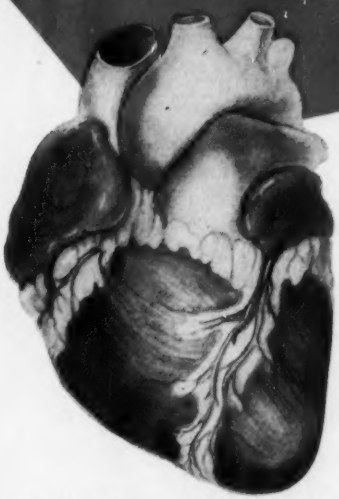
THERAPY IN DEPTH



in angina pectoris... status anginosus

PENTOXYLON — combining the tranquilizing, stress-relieving, bradycrotic effects of Rauwiloid and the prolonged coronary vasodilating effect of pentaerythritol tetranitrate (PETN) — provides a completeness of treatment heretofore unavailable to angina patients.

Therapy in depth — for the first time encompasses effective treatment for cause-and-effect mechanisms, which goes deeper than the superficial plane of relief afforded by simple coronary vasodilatation.

Continued therapy with Pentoxylon can be expected to reduce markedly or abolish nitroglycerin requirements, and greatly relieve the apprehension of the patient who lives in dread of the next attack.

Each long-acting tablet of Pentoxylon contains pentaerythritol tetranitrate (PETN) 10 mg. and Rauwiloid 1 mg.

Dosage: 1 to 2 tablets q.i.d. Available in bottles of 100 tablets.

- Reduces nitroglycerin needs
- Reduces severity of attacks
- Reduces incidence of attacks
- Increases exercise tolerance
- Reduces tachycardia
- Reduces anxiety, allays apprehension
- Lowers blood pressure in hypertensives
- Does not lower blood pressure in normotensives
- Produces objective improvement demonstrable by EKG.

Descriptive brochure on request.

PENTOXYLON™

Another Riker *Original*

RIKER LABORATORIES, INC., LOS ANGELES 48, CALIFORNIA

Peripheral Vascular Disease in Children

SIR JAMES LEARMONTH, F.R.C.S.E.
University of Edinburgh, Scotland

*Disorders affecting the peripheral blood vessels of children are of varied etiology.**

THE only peripheral vascular disease of childhood that does not involve an organic lesion is acrocyanosis, which is sometimes hereditary. Other causes of peripheral blood vessel disturbances among children are arterial injuries, congenital vascular anomalies, embolism and thrombosis, and degenerative conditions.

ACROCYANOSIS

The main cause of acrocyanosis is undue sensitivity of the digit vessels to cold, with spasm of the afferent vessels, increased capillary permeability, and subepithelial venous stasis. Usually, when exposed to cold, the fingers become swollen, blue, and stiff and remain so until the child is placed in a warm environment. The discomfort during an attack varies and under extreme circumstances, chilblains may appear, break down, and leave indolent ulcers. The condition frequently disappears soon after puberty.

Best treatment is to maintain a constantly warm environment. Occasionally a vasodilator, preferably Hydergine, is needed. Sympathectomy should never be done for the condition.

BLOOD VESSEL INJURIES

Arterial injuries and sequelae are similar among children and adults. Because collateral circulation is plentiful, nutritional sequelae are rare. Calcium is frequently deposited in ischemic muscle but may disappear in time. Regeneration seems to be possible in young growing muscle. Treatment should usually be conservative for vascular injuries.

CONGENITAL VASCULAR ANOMALIES

The carotid system and the root of the neck are sites of *large, single congenital arteriovenous fistulas.* A useful sign is the rerouting of the venous return from 1 arm to the opposite side of the chest. Retrograde arteriography should be of value.

Small, multiple arteriovenous fistulas, most often found in one lower extremity, produce gigantism. The communications are situated in all tissues including bone. Usually, 1 leg is warmer than the other. Scoliosis may appear. The saphenous veins may become very much dilated and tortuous, and nutritional lesions are common.

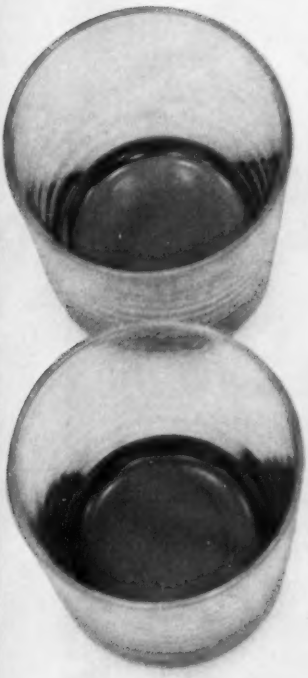
Best treatment is equalization of the length of the limbs by epiphy-

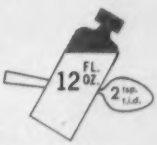
*Peripheral vascular disease in children. West. J. Surg. 62:354-365, 1954.

The aged, the convalescent,
the constitutionally delicate,
the neurasthenic,
the chronically fatigued
and the anorectic . . .

These are the patients—neither seriously ill, nor yet entirely well—who often respond dramatically to the administration of one of these outstanding tonics.

Smith, Kline & French Laboratories, Philadelphia





Eskay's Neuro Phosphates*

a palatable and effective tonic

Eskay's Theranates*

the formula of 'Neuro Phosphates' plus Vitamin B_1

Prescribed because they work

*T.M. Reg. U.S. Pat. Off.

seal stapling or bone lengthening or shortening procedures. If a nutritional lesion or elephantiasis occurs, the leg should be amputated. No therapy is available when the external genitals, rectum, and bladder are also involved. If the arm is affected, the gigantism is harder to compensate by conservative measures.

Limbs with congenital fistulas must be differentiated from limb deformities caused by hemihypertrophy, lymphatic obstruction, diffuse lymph hemangiomatosis, and fibrofatty gigantism.

Local dilatations of veins and arteries, plexiform angiomas, are relatively common. Gigantism is not associated, and veins usually predominate. Diagnosis is helped by both arteriographic and phlebographic examinations. Excision is the most frequent treatment.

Congenital phlebectasia may be limited to 1 vein, usually in the neck. The dilated segment should be excised. When many veins are involved, the distribution corresponds roughly to that of a dermatome. Calcification and thrombophlebitis may result.

EMBOLISM AND THROMBOSIS

Arterial or venous thrombosis is caused by dehydration, infection, or both. Arterial embolism usually comes from the venous system through a patent interauricular septum.

Gangrene may be caused by venous obstruction alone at any age. With umbilical sepsis, gangrene may result from spread of thrombosis in the hypogastric arteries to the common iliac arteries and possibly the aorta. Appendical abscess may cause thrombus formation in the lower abdominal aorta and common iliac arteries. Spontaneous axillary venous thrombosis may occur.

DEGENERATIVE CONDITIONS

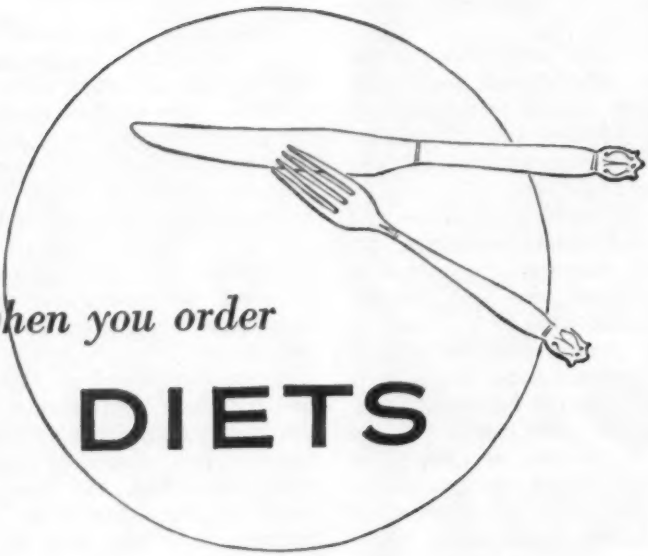
Children may be affected by degenerative arterial changes that are histologically different from those of adults. The changes occur with 2 types of disease. Myelodysplasia of varying degree with sensory depression, paresis of distal parts of the legs, and nutritional lesions is sometimes noted. Among other children the nervous system is not involved, and nutritional lesions may occur in the upper and lower extremities.

When myelodysplasia exists, the best treatment is amputation below the knee. Treatment is difficult and must be symptomatic if disease is widespread. Extensive sympathectomy is rarely justifiable. If the patient can be tided over the early years, the disease may subside.

Vasculitis, a degenerative lesion that affects adults and children, may lead to livedo reticularis or marble skin, chronic chilblains, erythema induratum, ischemic fat necrosis, or Weber-Christian disease. When vasculitis is the primary lesion, the condition must be differentiated from disease associated with excess of cold agglutinins in the blood.

Sympathectomy is of no value. Repeated injection of foreign protein to augment nonspecific immunity may be helpful.

Reducing Diets • Diabetic Diets • Geriatric Diets • Postoperative Diets •



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"CLUSIVOL"®

Two capsules (average daily dosage) provide:

Vitamin A (synthetic)	25,000	U.S.P. Units
Vitamin D (irradiated ergosterol)	2,000	U.S.P. Units
Vitamin C (ascorbic acid)	150.0	mg.
Thiamine mononitrate (B_1)	10.0	mg.
Riboflavin (B_2)	5.0	mg.
Pyridoxine HCl (B_6)	1.0	mg.
Panthenol, equivalent to of calcium pantothenate	10.0	mg.
Vitamin B_{12} U.S.P. (crystalline)	2.0	mcg.
Folic acid U.S.P.	2.0	mg.
Nicotinamide	100.0	mg.
Vitamin E (as mixed tocopherols natural)	10.0	mg.
Inositol	30.0	mg.
Choline—from choline bitartrate	30.0	mg.
Biotin	0.1	mg.
d-Methionine	20.0	mg.
Cobalt—from cobalt sulfate	0.1	mg.
Copper—from copper sulfate	1.0	mg.
Fluorine—from calcium fluoride	0.025	mg.
Iron—from 4 gr. ferrous sulfate exsic.	76.2	mg.
Calcium—from dicalcium phosphate	165.0	mg.
Manganese—from manganous sulfate	1.0	mg.
Iodine—from potassium iodide	0.15	mg.
Molybdenum—from sodium molybdate	0.2	mg.
Potassium—from potassium sulfate	5.0	mg.
Zinc—from zinc sulfate	1.2	mg.
Magnesium—from magnesium sulfate	6.0	mg.
Phosphorus—from dicalcium phosphate	127.4	mg.

No. 293—Supplied in bottles of 100 and 1,000.

Ideal multiple-vitamin preparation for dietary supplementation

6419

Benign Brain Tumors

GILBERT HORRAX, M.D.
Lahey Clinic, Boston

*Nearly half the patients with intracranial tumors may be benefited by operation and assured several years of useful life.**

DURING a twenty-year period, 1,814 verified intracranial tumors were operated on at the Lahey Clinic. Of these, 862 were completely removed surgically or could be adequately treated with roentgen rays. The majority of survivors engaged in useful activities up to twenty years postoperatively.

Meningiomas, acoustic neuromas, many pituitary adenomas and cerebral hemangiomas, cerebellar astrocytomatous and hemangiomatous cysts, cholesteatomas, colloid cysts, some craniopharyngiomas, and other less common neoplasms can be completely excised. Some cerebral astrocytomas, a few oligodendrogliomas, and a small miscellaneous group of tumors can be radically although incompletely removed.

Meningiomas compose the largest group of favorable benign tumors, and almost all can be extirpated. The mortality rate is about 13%, but more than half of survivors live for over a year and slightly more than three-fourths for over five years.

Pituitary adenomas constitute the second largest group of favorable tumors. In the majority, diagnosis is verified at surgery, but others can be treated with irradiation therapy when large sella turcica, visual field defects, and optic atrophy are noted. The operative mortality rate of approximately 12% is high because many of the lesions are extensive. Improvement and maintenance of vision are good prognostic signs after surgery. About 70% of survivors live usefully for five years.

The operative mortality rate for *acoustic neuromas* and the percentage of operative survivals with long useful lives are similar to the figures for pituitary adenomas.

Partly cystic cerebellar *hemangiomas* are quite favorable, since about 85% of patients surviving surgery are able to engage in useful activities up to twenty years later. The operative mortality rate is approximately 14%. The rate is slightly lower for cerebral hemangiomas, but only 75% of survivors living over five years are active.

Cerebellar *astrocytomas* have an operative mortality rate of about 8%, and 80% of survivors are able to live normally. Only one-tenth of cerebral astrocytomas are favorable, with patients living over five years; but nearly two-thirds of surviving individuals are usefully occupied.

(Continued on page 170)

*Benign (favorable) types of brain tumor. New England J. Med. 250:981-984, 1954.

SH!

We've forgotten about barbiturates since we discovered

CLORTRAN

for

In new CLORTRAN capsules you now can prescribe chlorobutanol, one of the safest and most reliable sedative-hypnotics, in a *stable* form heretofore unavailable.

Advantages: CLORTRAN is preferable to barbiturates because it is not habit-forming and produces "normal" sleep from which the patient can be easily and completely aroused, without hangover. Moreover, CLORTRAN is superior to chloral hydrate because chlorobutanol affords "chloral hypnosis without gastric irritation."[1] As Beckman remarks, "the profession would do well to use this drug more often in insomnia."

In addition, CLORTRAN actually exerts a soothing, spasmolytic influ-

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Wampole LABORATORIES

SH

sedation hypnosis

ence on the gastric mucosa and muscularis.[2] It is specifically and directly beneficial in control of motion sickness.

Dosage: *Sedative-antispasmodic,* 0.25 Gm. 2 to 4 times daily. *Nausea* or *Motion Sickness:* 0.25 Gm., repeated in 30 minutes if necessary. *Hypnosis:* 0.5-1.0 Gm., ½ to 1 hour before retiring.

Contraindicated only in severe cardiac, hepatic or renal disease.

CLORTRAN is supplied in golden-orange, soft gelatin capsules, 0.25 Gm. (3¾ Gr.) and 0.5 Gm. (7½ Gr.); bottles of 100.

1. Beckman, H. *Treatment in General Practice* (Saunders) 1948. 2. Krantz, J. C. & Carr, C.J.: *The Pharmacologic Principles of Medical Practice* (Williams & Wilkins) 1951.

Sample and literature on request

TRAN

Sedative-Hypnotic-Antinauseant : Capsules Stable Chlorobutanol (Wampole)

Henry K. Wampole & Company, Inc., 440 Fairmount Ave., Phila. 23, Pa.

A doctor is a man of few words

He never requests a nurse to give him "a prepared cotton swab."

He simply calls for a 'Q-Tips'.

It's the word most people* use when they want a cotton swab.

Q-TIPS®

*Research shows that about 80% of all the prepared swabs sold are 'Q-Tips'.

Professional samples mailed on request.

Q-Tips Inc., Long Island City 1, N. Y.

Rx INFORMATION

BENTYL

Bentyl affords direct (musculotropic) and indirect (neurotropic) spasmolytic action. Bentyl provides complete and comfortable relief in smooth muscle spasm; particularly in functional G.I. disorders, in irritable colon, pylorospasm, biliary tract dysfunction and spastic constipation.

Composition: Each capsule or teaspoonful (5 cc.) contains 10 mg. of Bentyl (dicyclomine hydrochloride).

Bentyl with Phenobarbital adds 15 mg. of phenobarbital to the preceding formula.

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1. Mellardy and Browne: Geo. Med. J. 46:1139, 1960.
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The disorder occurs most frequently in middle-aged women, and symptoms usually appear insidiously without a known inciting cause. Sensory symptoms include tingling, burning, or painfully numb sensations. Although discomfort is most intense in the hand, pain may extend into the forearm or arm. Objective neurologic deficits may be lacking for years after onset of these symptoms. Motor signs such as weakness or atrophy are usually less prominent and occur many years after sensory symptoms first appear.

Hypertrophic osteoarthritis of the wrist or carpal joints, deforming fractures of the carpal bones or distal radius or ulna or both, and chronic tenosynovitis of the flexor tendons at the wrist are among the disorders which compress the median nerve. Repeated external trauma to the wrist or proximal portion of the palm may also produce symptoms. In some patients, compression of the median nerve against the transverse carpal ligament may occur spontaneously without current or antecedent injury or disease of the nerve in the carpal tunnel.

Treatment consists of surgical decompression. A transverse skin incision of several centimeters is made along the distal crease at the wrist. The palmaris longus tendon is divided, and the transverse carpal ligament is exposed and divided over the course of the median nerve. Section should be extended into the upper portion of the palm to assure complete division of the distal edge. A strip of Gelfoam is placed over the nerve before the incision is closed. A pressure dressing applied for several days decreases postoperative swelling.

Syndrome of median nerve compression in carpal tunnel. S. Clin. North America 34:853-857, 1954.

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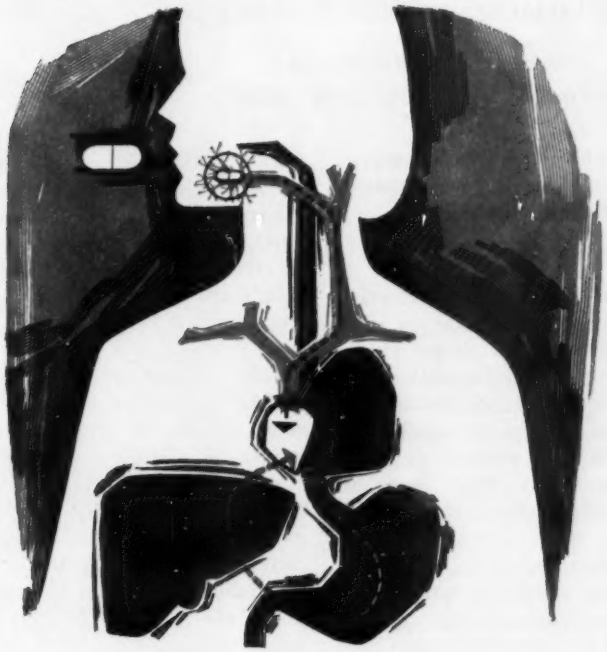

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Complications after Cataract Extraction

JOSEPH A. C. WADSWORTH, M.D.
Presbyterian Hospital, New York City

*Most sequelae of cataract surgery can be prevented if the causative complication is anticipated.**

EVEN with antibiotics, *infection* may cause vitreous abscesses, retinal detachments, or dense secondary membranes. If bacteria are in the conjunctiva or lids before operation, the process is usually recognized on the second or third postoperative day when purulent material gathers about the sutures. Hypopyon and vitreous involvement develop.

Infections occurring weeks after surgery are usually endogenous and are caused by foci of infection elsewhere in the body. Uveitis may result from an exacerbation of quiescent uveitis or from a sensitivity to lens protein that sometimes occurs after extracapsular extraction. Sympathetic ophthalmia may be noted after incarceration or prolapse of uveal tissue and generally means loss of the eye.

Progressive *prolapse of the iris* causes loss of aqueous and the anterior chamber. Immediate excision of the prolapsed iris and resuture of the wound are necessary.

Corneal damage varies from the transitory clouding caused by trauma to the endothelium during delivery of the lens to permanent keratitis. Hyaloid contact with the posterior surface of the cornea causes tearing, photophobia, and foreign body sensation. Separation of the hyaloid from the cornea clears the cornea but contact for over two weeks produces permanent damage.

The cornea overlying the detached membrane shows a permanent opacity if Descemet's membrane is detached by a sharp instrument during surgery.

Delayed restoration of the anterior chamber may cause peripheral anterior synechias and subsequent secondary glaucoma. Epithelization may also occur if the anterior chamber remains flat too long. Epithelium implanted into the iris during surgery may grow as long as the intraocular pressure is low and the anterior chamber shallow.

Deeply placed corneal sutures frequently delay restoration of the anterior chamber. Occasionally, the wicklike action of through-and-through sutures permits aqueous liquid to escape. If the sutures are removed, the chamber is promptly restored.

Besides causing severe uveitis, *rupture of the lens capsule* with retained cortex in the anterior chamber prevents strong healing. Also, the epithelium of the capsule may undergo metaplasia and ex-

*Complications following cataract extraction. Am. J. Ophth. 37:672-695, 1954.

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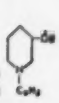

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tend over the surface of the vitreum, causing grayish lines. Subsequent contraction draws the pupil toward the wound creating an eccentric pupil. Proliferation of the lens epithelium can obscure vision by forming translucent spherules that fill the pupil.

Hemorrhage from small capillaries in the scar occurring about the sixth postoperative day may rupture the wound and cause prolapse of the iris or lead to vitreous opacities. If the hemorrhage is sufficient to cause glaucoma, prompt drainage of the blood in the anterior chamber is necessary. Firm corneoscleral sutures may prevent the consequences of late hemorrhage. Choroidal or expulsive hemorrhage is extremely rare but usually means loss of the eye.

The severity of *vitreous loss* depends on the type not the amount extruded. Completely fluid vitreous loss is generally not serious, but semifluid vitreous flow may cause a secondary membrane to form with updrawing of the pupil. Incarcerated vitreous matter in the wound causes weak approximation. Loss of normal vitreous jell is serious. Subsequent shrinkage causes the iris to be drawn toward the wound, or retinal detachment may occur if vitreous-retinal adhesions form. The eye remains irritable for weeks and secondary glaucoma is common.

A *detached retina* may be easily reapproximated provided no vitreous matter has been lost. If inflammation of the vitreum with shrinkage has caused the detachment, the prognosis is poor because vitreous organization effectively separates the retina.

Occasionally, *iridodialysis* is produced during the enlargement of the incision with scissors because traction exerted by the closure of the shears tears the base of the iris. The use of right- and left-handed scissors is recommended. Multiple small bites should be made parallel to the limbus curve with equal pressure on both sides of the cornea.

Retrobulbar Neuritis and Multiple Sclerosis

ROBERT G. TAUB, M.D., AND C. WILBUR RUCKER, M.D., MAYO CLINIC AND FOUNDATION, ROCHESTER, MINN., report that when retrobulbar neuritis occurs between the ages of 20 and 44 years, about half of patients may expect other signs of multiple sclerosis within fifteen years.

Of 87 patients with retrobulbar neuritis, 7 were under 20 years of age at the time of acute attack. Multiple sclerosis subsequently occurred in only 1 patient. However, of 57 patients between 20 and 44 years of age, 26, or more than 45%, later had multiple sclerosis. The disease appeared in 1 of 23 patients over 44.

The relationship of retrobulbar neuritis to multiple sclerosis. Am. J. Ophth. 37:494-497, 1954.

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Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Inguinal Hernia in Childhood*

QUESTION: When should a child's inguinal hernia be repaired?

Comment invited from

H. MAX SCHIEBEL, M.D.
ALFRED H. IASON, M.D.
WILLIS J. POTTS, M.D.
R. A. BONNER, JR., M.D.
FLOYD R. PARKS, M.D.
OGDEN C. BRUTON, M.D.
CARL J. HEIFETZ, M.D.
HENRY N. HARKINS, M.D.
G. Y. GRAVES, M.D.
J. W. DUCKETT, M.D.
LAWRENCE W. LONG, M.D.
PHILIP A. CAULFIELD, M.D.
SAM F. SEELEY, M.D.
WILLIAM L. RIKER, M.D.
H. CALVIN FISHER, M.D.
IRVING WILLS, M.D.

► TO THE EDITORS: Congenital inguinal hernia in an infant or child is attended by a host of difficulties for the parents and frequent complications for the child. I am in full agreement with the premise of early operative repair as advocated by Drs. George B. Packard and Carl H. McLauthlin.

Several years ago, when reporting my own experience in 100 cases using early operative repair regardless of age, the management used by other surgeons in a general hospital was also studied. There were 79 operations in the general group with no recurrences and no serious complications. On the other hand, of 20 patients treated with trusses for an average of eleven months, there was much distress on the part of the parents and no disappearance of the sac. Age in no way interferes with the operative procedure or the healing process. Immobilization or restraint should never be used.

Incarceration was most frequent in the early ages; 26% were under 1 year of age and 23% between 1 and 2 years of age. Strangulation occurred in 11% of the younger group. These complications gradually diminished in the older children.

Congenital inguinal hernia is frequently bilateral. Involvement of the second side will usually be evident one to two months after the first, if not simultaneously. Therefore, in the absence of any complicating factor, I am inclined to wait sixty to ninety days after birth to repair the hernia since by that time hernia on the second side will frequently show and both may be repaired at the same time. If there is any suggestion of incarceration, with or without strangulation, the

*Modern Medicine, Mar. 15, 1954, p. 138.

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operation is performed immediately.

I believe that early operative repair with high ligation and excision of the sac is simple and logical. It is associated with a low morbidity and a very high incidence of complete cure.

H. MAX SCHIEBEL, M.D.
Durham, N.C.

► TO THE EDITORS: Surgery is indicated, and trusses are not, in the repair of various hernias in children. Repair is carried out as soon as the diagnosis is made, irrespective of the age of the child. This holds true whether or not the hernia is incarcerated. Incarceration manifestly carries the hazard of intestinal strangulation and, if spontaneously or digitally reduced, surgical intervention is exigent despite subsequent tissue edema. This step forestalls recurrence of the condition.

Of 560 hernias in children under 2 years of age only 1 direct and 1 femoral hernia was found.

The hernia incidence in children is 9 times greater in males than in females and preponderantly so in the right side of the body. Bilateral hernias were discernible in 120 children.

Mere physical examination does not always indicate whether a particular side is unaffected. It is therefore expedient to operate on both sides in order to obviate later surgery for the same candidate.

The operation for bilateral hernia can be efficiently and expeditiously accomplished in ten minutes because ligation of the sac is all that is required. At the age in question the subcutaneous inguinal ring is usually found directly over the deep one and it is needless to cut the external oblique aponeurosis. The sac is always superior and medial to the spermatic cord, and cremaster fibers are so tenuous that they may be, in effect, disregarded. The sac contents, obviously, must be replaced and the sac itself twisted to prevent subsequent protrusion of the contents. A ligature is then placed around the sac neck and, in the process of tying, the sac is uncoiled to permit better closure.

Children under 2 years of age are sent home a few hours after the operation. The wound is covered with gauze saturated with collodion for waterproofing. No attempt need be made to restrict the child's movements.

Recurrences of hernia are extremely rare.

ALFRED H. IASON, M.D.
Brooklyn

► TO THE EDITORS: Inguinal hernia in a child should be repaired when the diagnosis is made, provided the child is otherwise normal, is taking its food, and gaining weight. We used to be of the opinion that inguinal hernias would correct themselves spontaneously or with the aid of a truss. Over a period of years we have found that the number of inguinal hernias in infants which disappear spontaneously is so small as to be almost negligible.

The incidence of incarceration is

highest during the first six months of life and is another reason why the hernia should be repaired promptly. We found from a rather extensive study some years ago that 26% of infants with hernias had an incarceration or history of incarceration during the first six months of life.

The third reason for repairing the hernia promptly, since its repair is so simple and the period of hospitalization so short, is that the parents may be relieved of worry about their child and the constant anxiety concerning a possible incarceration.

The fourth reason for early repair is indirect. The mortality is low. In the repair of well over 1,000 hernias at this hospital, there has been no mortality. The postoperative morbidity is low and the incidence of recurrence is well below 1%.

WILLIS J. POTTS, M.D.
Chicago

► TO THE EDITORS: A child's inguinal hernia should be repaired when the diagnosis is made except:

1] When reducible incarcerated hernias are uncomplicated by strangulation. True strangulation is fortunately rare in infancy and consequently the surgeon is justified in preparing the area for surgery by preliminary complete reduction. Surgical observation is essential.

2] In children of school age. All other things being equal, a delay for nonmedical reasons can be condoned. The incarceration is at its peak of incidence at 6 months of age, is relatively rare after 2 years of age, and becomes extremely rare in children over 6.

3] With prematurity, abnormal physiologic states, and concomitant diseases amenable to therapy. Unalterable conditions do not delay surgery. The surgery must be in good hands.

4] With cryptorchidism. One procedure well planned and timed as to need is best, unless, of course, the hernia requires surgery for a complicating factor.

5] With medical hernia, a thickened processus vaginalis without a true reducible mass. This group must be highly individualized. One-third of all incarcerated cases probably arise here. On the other hand, many excellent observers have witnessed neonatal completion of the normal fibrotic process.

6] In the absence of good surgical facilities. Medical centers are not required but better than average facilities and surgeons are necessary in such a plan.

The surgeon who operates by the above criteria and the physician who refers his cases to such a surgeon will be meeting the problem of hernia in children with force and directness. The false reasoning of the past will disappear from the medical scene. The potential dangers of complicated hernia will fade in intensity. The tortured truss-applying parents will be freed. The recurrence rate will go even lower and the morbidity will just about disappear.

R. A. BONNER, JR., M.D.
Waterbury, Conn.

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1. Susinno, A. M., and Verdon, R. E.: J.A.M.A. *154*:239 (Jan. 16) 1954.
2. Rottino, A.: Journal Lancet *71*:237, 1951.
3. Pelner, L., and Waldman, S.: New York State J. Med. *52*:1774 (July 15) 1952.

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► TO THE EDITORS: The conclusion made by Drs. Packard and McLauthlin that surgical repair of hernia is indicated, regardless of age, except when a child is sickly or not gaining in weight, is not warranted on the basis of the statistics given.

Although 681 cases were reviewed, no report was made on how many cases were reexamined after one year or at any time. Of these 681 cases, 214 were infants; 1 death and 4 recurrences were reported, but it is not stated whether these cases were among the 214 infants.

The preference for surgical cure of hernias that are very large, increasing rapidly in size, or with a history of incarceration or strangulation is unquestioned. How many of the infants operated upon were in this category? Among the 214 infants, 56 incarcerations were observed, leaving 158 possible uncomplicated cases. It is among this group of 158 cases, where surgery was elective, that further statistics would be helpful. Even 1 recurrence among these cases would lead to the conclusion that elective repair of inguinal hernia, when uncomplicated, might well be postponed until the child is past infancy, at which time the tissues are easier to differentiate and the structures are larger and less likely to be damaged.

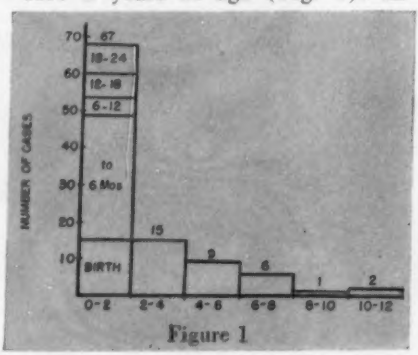
Checkup examinations should be made on these patients five years after surgery in order to rule out further complications. Of the 23 reported patients returning with a hernia on the opposite side, how many would have been diagnosed as bilateral if the original repair had been postponed until after infancy? We believe that further study in this field is needed before we conclude that every well infant with a hernia should be operated upon immediately.

FLOYD R. PARKS, M.D.
Los Angeles

► TO THE EDITORS: Although the operative treatment of inguinal hernia in infants and children is a well established and accepted procedure, surgeons have disagreed as to the best age at which the infant should be subjected to operation.

An analysis of 100 consecutive patients at Walter Reed Army Hospital, operated on for inguinal hernia during 1949-50, supports the growing belief that repair of inguinal hernia in young infants is simple and safe and under optimal surgical and pediatric conditions is indicated without too much delay when diagnosed.

Hernia was diagnosed in about one-half of these patients before 6 months of age and in 67% before 2 years of age (Fig. 1). In



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*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

C I B A

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the young infant incarceration occurs frequently, as indicated by the facts that 19 of these patients required a doctor to reduce the hernia a total of thirty-four times before operation, and 15 of 19 patients requiring immediate surgery because of incarceration or strangulation were under 1 year of age (Fig. 2).

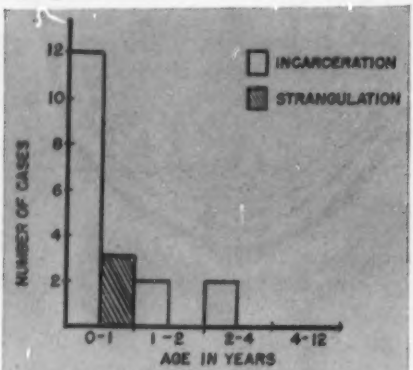

Figure 2

Although no complications were reported in this group, one 6-week-old boy was operated on during the course of a respiratory infection which progressed to frank pneumonia, after he developed an irreducible incarceration. There were no deaths. The hospital stay was short and follow-up examinations revealed no recurrences or testicular atrophy.

It appears from the foregoing analysis that in a hospital having well-trained anesthetists, surgeons with great gentleness of technic and experience in handling delicate tissues in babies, and with rigid and complete asepsis, infants under 1 year of age tolerate the repair of inguinal hernia extremely well. Even better results can be expected from elective operation in the young infant than from waiting and performing an emergency operation at the time of incarceration.

The repair of inguinal hernia should be done, with discretion, as an elective procedure when diagnosed.

OGDEN C. BRUTON, M.D.
Washington, D. C.

► TO THE EDITORS: Inguinal hernias of infancy and childhood should be repaired soon after the diagnosis has been established by the surgeon, if the patient's general health is good. Surgery should be delayed when an infant is premature, there is other important disease, or feeding problems are present. Thus, herniotomy should not be performed during the first six weeks of life, unless strangulation is present or imminent.

Early surgery is recommended because:

1] Healthy infants and children are good surgical risks.

2] A patent funicular process does not become obliterated spontaneously after full-term birth, although the protrusion of abdominal contents into the process may not be noticed for long periods of time.

3] A truss cannot permanently obliterate the funicular process.

4] The operative technic is simpler than in adults, since it is only necessary to perform high ligation and excision of the sac and to restore normal anatomy.

5] The postoperative care is simpler than in adults and the hospital stay is usually of very short duration.

6] Psychic trauma is slight if operation is performed under the age of 2½ or 3 years.

7] An inguinal hernia will inevitably require surgery, and it is sound to do the operation at a time in the patient's life when the procedure is simpler, the hospital stay shorter, the results better, and the complications of school or work are not factors requiring consideration.

8] Properly executed herniotomy assures lasting cure in all cases of inguinal hernias of infancy and childhood and approaches the theoretic limit of safety of any operation.

CARL J. HEIFETZ, M.D.
St. Louis

► TO THE EDITORS: The question as to when a child's inguinal hernia should be repaired is one that has interested me for several years. Formerly I advised waiting until the child is about 2 years of age. During the past five years, however, I have changed my policy in this regard and now am of the belief that hernias of any appreciable size, particularly those with incarceration and, of course, all those with strangulation, should be repaired as soon as possible irrespective of the child's age. In doing this I have followed the teachings of Potts.

The paper by Drs. Packard and McLauthlin has reemphasized this principle. One minor point of technic concerning which I follow the dictum of Potts rather than that brought out by the authors is that I split the external oblique aponeurosis only part way down to the external ring, in the belief that a natural external ring is better than a reconstituted one after repair of this type of hernia.

HENRY N. HARKINS, M.D.
Seattle

► TO THE EDITORS: A child's inguinal hernia should be repaired at any age that the hernia causes trouble, if the nutrition of the child is satisfactory, and if he has no congenital anomaly or serious disease which would contraindicate operation.

While it is true that a small inguinal hernia may occasionally be cured spontaneously in the first few months of life, this happens so rarely that it cannot be depended upon. Since incarceration is very common during the first year of life, the danger of a do-nothing policy is greater than the danger of surgery.

For the last ten years, it has been our policy to operate upon all hernias in infancy or in childhood that are large or causing any symptoms whatever. We have not regretted this. If one has a good anesthetist, instruments small and delicate enough to handle the delicate, thin tissue, and the patience, gentleness, and care to do the dissection, hernia in an infant can be easily cured. Babies stand the surgery surprisingly well, the chances

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Industrial studies have shown workers' production-efficiency falls off towards the end of morning and afternoon periods, thus tending to confirm the work of Haggard and Greenberg — studies of 213 workers which reveal consistently low values in late morning and afternoon periods, when their general efficiency, productive output, and morale were at low ebb.[1]

The new study showed the need of morning snacks to be of importance when work begins early or there is a long interval between breakfast and lunch. It likewise follows that an afternoon snack or six meals a day are sometimes recommended for those in heavy industry and agricultural work.[2]

In the first study, subjects given rest-period snacks maintained higher blood respiratory levels with an accompanying increase in productivity, lowered absentee rate, and improved social behavior.

Thus the recommendation for routine between-meal feedings appears to be sound procedure in the interest of good health and morale. Haggard and Greenberg have specified that such feedings be highly digestible as well as nutritionally balanced, and that they include an ample source of usable carbohydrate.[3] This latter requirement is satisfied by the readily available bottled carbonated beverage. Their easily absorbed sugar content helps to restore the depleted blood sugar to normal — quickly. Muscular efficiency is increased. Irritability, lassitude, and other results of "tension fatigue" are relieved.

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1. Haggard, H. W., and Greenberg, L. A., "Diet and Physical Efficiency," Yale University Press. (1935) 2. Nutrition Reviews, August, 1953. 3. Haggard, H. W., and Greenberg, L. A., J. Am. Dietet. Assn. 17:753, 1941.

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G. Y. GRAVES, M.D.
Bowling Green, Ky.

► TO THE EDITORS: With few exceptions, inguinal hernia in infants or children should be repaired surgically at whatever age the diagnosis is made. The operation is safe and relatively simple, requiring only the elimination of a vestigial structure, the persistent processus vaginalis. If basic considerations are observed and careful technic employed, there should be little morbidity, no mortality, and no recurrences.

When hernia is discovered at birth, delay of operation is advisable until the baby is well established nutritionally, which may require two or three weeks or, in premature infants, several months. Other obvious contraindications to operation are respiratory infections, febrile illnesses, or exposure to contagious disease. If the hernia is large, it may be retained very easily during the delay period by application of a yarn truss.

Early operation is advised mainly to avoid incarceration and strangulation of bowel. Infarction of a testis may also occur as a result of compression of the spermatic cord by incarcerated bowel; and, in the female infant, an ovary incarcerated in a hernial sac may become infarcted. Early operation avoids as well the continuation of symptoms such as fretfulness, irritability, cramping or aching pain, constipation, nausea, and other digestive disturbances so often associated with hernia. Parents suffer as well as the patient and, as long as the hernia is present, are faced continually with fear of possible complications and with apprehension over the inevitable operation.

Since delay can result only in annoyance and danger to the patient and anxiety for the parents, operation should be done as soon as diagnosis is made, if possible.

J. W. DUCKETT, M.D.
Dallas

► TO THE EDITORS: We recommend hernia repair when the diagnosis of hernia is made, regardless of the age, if the general condition of the child does not contraindicate elective surgery.

We do not feel that trusses should be used on these children because of the false sense of security they give parents, together with inability to keep them clean.

Although hydrocele is a frequent finding, either as a forerunner or accompanying the hernia, this condition does not constitute any additional hazard or contraindication to surgrey.

Early surgery, early relief, and early cure are criteria worth thinking about.

LAWRENCE W. LONG, M.D.
Jackson, Miss.

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► TO THE EDITORS: At Children's Hospital, it is the general consensus of opinion of the staff that inguinal hernias in children should be repaired as soon after diagnosis as practical.

From a surgical standpoint, there is no contraindication to surgery even in the very small or newborn infant. It is admitted, however, that the structures in the inguinal canal —the spermatic cord and pampiniform plexus—are more easily injured when these structures are very small. For this reason alone, I have on occasions advised delay of surgery to allow for growth of a premature or very small infant.

In other instances, the parents are not psychologically prepared for immediate surgery, and advising a short delay with another examination in two or three weeks will frequently be enough time to condition them. If the parents are the least bit nervous, they will return before the appointed date. When the surgeon encounters parents such as these, he can then advise immediate surgery and perform three good acts by doing it. He will repair the child's hernia, he will relieve the parents of worry and anxiety, and he will free himself of the irksome duty of constantly reassuring worried parents.

Immediate repair of inguinal hernias is, of course, advocated only in the healthy child. Any illness, no matter how minor, is a contra-

indication to surgery. Elective surgery in children should not be performed during the height of any epidemic.

There are domestic and economic reasons why immediate surgery for inguinal hernias is sometimes not advisable. If the hernia is reducible, not bothersome to the child, and the parents are not unduly concerned, surgery can be delayed to allow the child to finish school, to permit parents to adjust business and domestic affairs, and for many other sensible and legitimate reasons. A good surgeon uses good judgment and should operate in elective cases when it is best for all concerned.

In regard to the use of trusses in children, I never advise them even when surgery is delayed. All trusses need constant adjustment and are most uncomfortable. No child that I have known will keep his truss adjusted unless harassed by his parents. Sometimes trusses are harmful and cause incarceration of a constantly protruding hernia by traumatizing the structures of the cord. Edema and swelling then result.

PHILIP A. CAULFIELD, M.D.
Washington, D. C.

► TO THE EDITORS: I believe that operation for hernia in infants is as safe, from the standpoint of anesthesia, as for pyloric stenosis. For this reason, when a capable surgeon will handle properly the delicate tissue involved, operation at the age of 3 months or later is not precluded.

When parents live in remote locations, such as occurs frequently in the military, I suggest operation in children this young. When medical attention is readily available and the type of hernia is such that incarceration is not an obvious threat, I prefer to wait until the child is 1 year old.

I emphasize that the operation should be undertaken only by those surgeons who are able and willing to employ the most delicate of surgical technics.

SAM F. SEELEY, M.D.
New York City

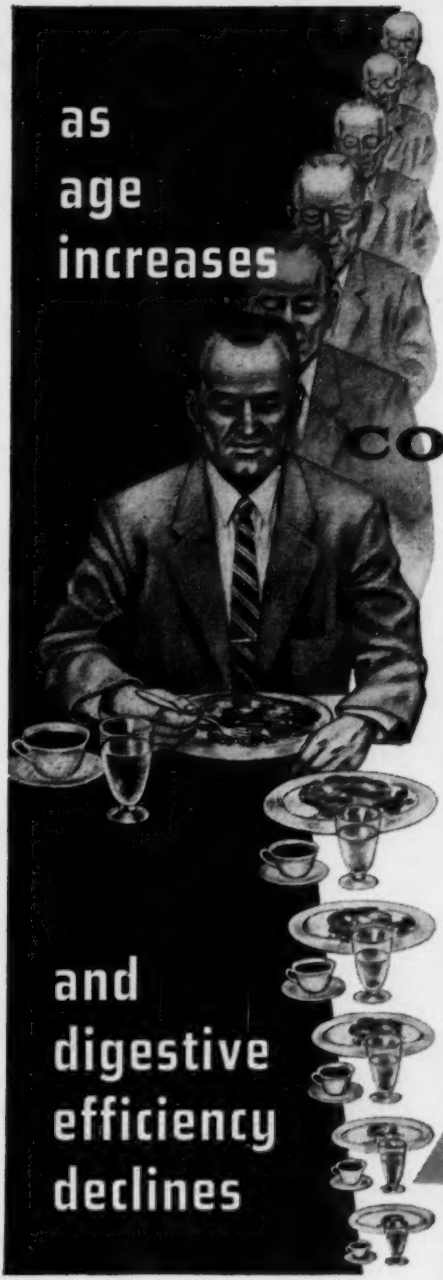
► TO THE EDITORS: Many prominent surgeons advocate postponing surgical repair of hernias in young children until the patients reach 5 years of age. Let us review some of their reasons.

• *The hernia may disappear.* Spontaneous cure of an inguinal hernia is exceedingly rare except in the premature infant.

• *Trusses are satisfactory.* A truss is extremely difficult to keep in place on a plump infant or active child. Skin care is very difficult before toilet training.

• *Infants cannot tolerate anesthesia or major surgery.* Actually, a normal infant tolerates these things better than many adults. The anesthesia must be simple and the operation should be brief and nontraumatic.

• *Wounds become infected in infancy.* The wicklike action of ordinary through-and-through silk skin sutures results in infection routinely. For this reason, the in-



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cision should be made in the crease of the infant's groin so that closure can be obtained by very fine subcuticular silk stitches only.

• *Delicate structures may be damaged during hernia repair on an infant.* It should be stressed that if the same operative procedures, surgical technics, suture materials, and instruments used for adult herniorrhaphies are employed in the repair of an infant's hernia, the results may be disastrous. If, however, due respect is paid to the thinness of the hernial sac and the delicacy of the cord structures, no damage should result. Simple isolation of the hernial sac and high ligation is sufficient. Complicated imbrication repairs are unnecessary and may result in cord compression and testicular damage.

WILLIAM L. RIKER, M.D.
Chicago

► TO THE EDITORS: At birth, 25% of all male children have a patent processus vaginalis. It has been estimated that 50 to 95% of these close spontaneously, either partially or completely, or with the aid of a truss. The weakness, however, persists and a true hernia may develop later.

Many scrotal hernias of the so-called congenital type appear presumably for the first time in adolescence or early adult life. Some of these undoubtedly result from the reestablishment or persistence of patency of the processus vaginalis of infancy. Operation during early life would have cured the condition with less difficulty than the more complicated procedure which is necessary later on.

We agree with the attitude of Drs. Packard and McLauthlin and feel that the preferred treatment of inguinal hernias in children is surgical repair, regardless of age. The operation is simple and yields uniformly good results. Recurrence is rare and is the result of technical error. There should be no mortality.

There are, of course, some contraindications to the immediate repair of an inguinal hernia in a child: respiratory infection, nutritional disorder, excessively hot weather, or systemic disease. A yarn truss may, of course, be used in such a situation until the patient is tided over the complication, although this is not absolutely necessary. Neglected incarcerated hernias in the first year of life may result in strangulation later on.

The need for repair of inguinal hernias in infants, therefore, is obvious even though the child is premature. It has been our experience that a child weighing less than 5 lb. at birth will often fail to gain or will even lose weight in the first two or three months of life. Later on, after repair of the hernia, the child will show a sharp gain in weight.

If an incarcerated hernia has not existed more than three hours, the white blood count is normal, and the child not in obvious pain, attempt at conservative reduction is made as follows: A Trendelenburg position with slight sedation, local heat, and gentle pressure is employed. If these measures do not bring about reduction in three more

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hours, surgery should be resorted to. The tissue edema and any distortion of anatomy which may occur as a result of incarceration are of secondary importance since they render the repair procedure only slightly more difficult and do not mitigate against a good result. For this reason an attempt at reduction by less conservative methods is not justified.

If the measures described are effective in bringing about reduction, a twenty-four- to forty-eight-hour period of bed rest is employed before surgery for the restoration of tissue normality and for the patient's rest.

H. CALVIN FISHER, M.D.
Denver

► TO THE EDITORS: Delay in the surgical repair of inguinal hernia in infancy and early childhood seems to be due largely to exaggerated ideas of the risk involved. No one will deny that some risk must be faced in any surgical procedure, but certainly one cannot ignore the risk associated with temporizing methods. Any surgeon who has had to carry out bowel resection in a few cases of strangulation in these tiny patients realizes at once that conservative and nonoperative treatments are not necessarily one and the same.

Trusses for the support of a hernia are for the most part an abomination. When one considers the difficulties that the mothers en-

counter in bathing the baby, combating chapping and excoriation of the skin, keeping the truss in place, and keeping the baby clean for a period of months and years, their inadequacy is most apparent. In addition to this, there is always the disturbing situation of having the mother's attention continually directed toward the pathology, the truss serving as a constant reminder.

It is our opinion that surgery should be instituted as soon as possible after the discovery of the hernia. The surgery itself should be as simple as possible since a high ligation of the sac is the most important consideration in the cure of infantile hernias. We use a modification of the Ferguson-Andrews operation in which the cord is disturbed as little as possible although the sac is removed. The cord itself is not transplanted and the canal is reconstructed in an anatomic fashion.

In order to obviate the difficulties sometimes associated with the soilage of dressings with urine and feces we utilize a continuous subcuticular stitch of either fine silk nylon or stainless steel wire for skin closure and a dressing of flexible collodion.

These patients are allowed the freedom of the crib without restraint, and regular diets are given as soon as tolerated.

IRVING WILLS, M.D.
Santa Barbara, Calif.

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-272

THE CLUE

ATTENDING M.D: A 32-year-old man was sent to us last week. His behavior has been peculiar for the past eight months, during which time he has been spending more and more time at home watching his wife, whom he suspects of infidelity, and going over the family budget night after night, checking and rechecking the bank stubs. His work has suffered. He owns his own small business, but now pays little attention to it.

VISITING M.D: His suspiciousness is limited to home and does not extend to business?

ATTENDING M.D: Yes. He apparently trusts his partner and employees completely, but home is another matter. He has insomnia, anxiety, and attacks of palpitation. He has lost 20 lb. in the last five months, largely, I think, from worry. In the last month a classical syndrome of cardiospasm developed. This diagnosis was established beyond doubt by a gastroenterologist who, after a thorough physical and laboratory study, treated him by dilation. The symptoms ameliorated, with perhaps a 50% improvement. Now the man also complains of headache, but a neurologic examination by an excellent neurologist was completely negative.

VISITING M.D: Was suspiciousness noted at any periods earlier in his life?

ATTENDING M.D: Apparently not.

VISITING M.D: Any spell of nervousness or what he would call a nervous breakdown?

ATTENDING M.D: No.

VISITING M.D: Briefly, what about his social and developmental history and school record?

ATTENDING M.D: All unremarkable.

He was an athlete in college, in fact a star halfback, well liked, an outgoing, pleasant fellow, president of his fraternity. Never too smart, yet he got good grades even in grammar school. He never played hooky and was always considered a rather exemplary boy. He has never had a nervous breakdown. When the neurologist suggested he consult a psychiatrist, he became infuriated and said it was his wife who needed a psychiatrist.

PART II

VISITING M.D: A young man with first nervous or mental symptoms accompanied by strong somatic reactions. Some people would say somatization of a conflict. But we really don't know what his conflict is . . . and the psychosomatic picture is complex—head, stomach, heart, and so on. A sort of vegetative nervous system storm. Give me more details about his suspicions.

ATTENDING M.D: I've talked to him several times. He says his wife is having an affair with a city official, that she slips out at night after he is asleep, or did so before he began staying awake almost all night. He says they are plotting to kill him.

VISITING M.D: How?

ATTENDING M.D: The official was a close friend who often came to the house. At a dance, about a year ago, the official and the patient's wife spent a lot of time together and, the patient says, disappeared from the party for a couple of hours. He was furious and threatened "to beat the hell out of the man" but calmed down when reassured by his wife. Since then he has refused to invite the official to their house, to the anger of his wife. I spoke to her once. She is a very attractive 26-year-old woman and genuinely concerned about her husband. She says he has imagined the whole affair. She can't understand his state of mind. He used to be such a stable, solid citizen. She thinks he's "crazy" and asked me about committing him. They have three little children.

VISITING M.D: A most serious case. What strikes me at once is the fact that he has, or at least had, an outgoing personality. Not very schizoid. What do you know about his family?

ATTENDING M.D: Both parents are dead. He is an only child. Apparently he was very close to his mother. He says his father, a successful lawyer, was an alcoholic—he beat the patient severely and repeatedly as a child. When the patient was 14 his parents were separated for three months, during which time he lived with a detested aunt.

VISITING M.D: Was there any other woman?

ATTENDING M.D: His father was having an affair but gave up the woman and the parents were reunited. They made quite a vocal point about their coming back together for his sake.

VISITING M.D: So, as an adolescent he was made to feel responsible

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1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation, Journal-Lancet, 73:414 (Oct.) 1953.

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for their reconciliation. He felt guilty—I mean his parents' unhappy life together seemed his responsibility. He must have been unhappy most of his early years.

ATTENDING M.D: He was sent away to college. While he was a junior his father died during an operation for cancer of the stomach. His mother died soon afterward of a heart attack. He married just after graduation. He had known his wife only two weeks. He says they have always been in love and very happy until she became unfaithful.

PART III

VISITING M.D: Did he give any details about the murder plans?

ATTENDING M.D: Yes. About eight months ago he and his wife went to a movie and she insisted they go to a bar afterward. He said that the other man was waiting at the bar and his wife invited him to their table. The other man went to the bar and got a "special" drink for the patient, saying it was a drink to "mend their friendship." The patient maintains he saw the man put something into the drink; is sure it was poison.

VISITING M.D: We have a complex emotional and psychologic problem. Has the patient had any hallucinations? Heard any voices, ever been disoriented, obviously confused, or dissociated in his thinking?

ATTENDING M.D: Only what I have told you. Perhaps aside from the delusion . . .

VISITING M.D: *(Interrupting)* aside from what *he tells you* . . . Have you checked?

ATTENDING M.D: I spoke to his wife. How could I talk to anyone else about such an affair?

VISITING M.D: Quite right. I find some strange features here. There are undoubtedly ideas of reference, of persecution and intended homicide. The question remains —especially without other evidence of a psychotic state— whether his fears are genuine or not.

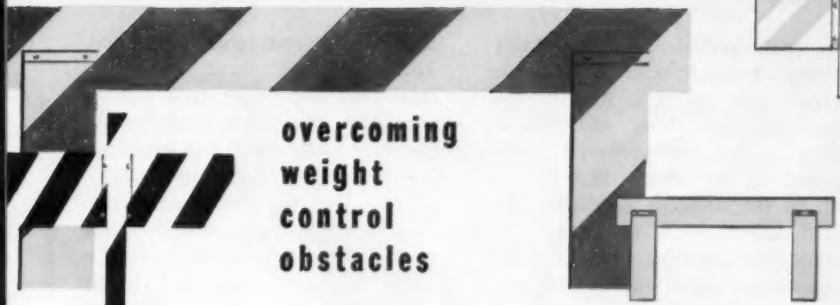
ATTENDING M.D: What do you think we should do?

VISITING M.D: I will try to persuade him to see our psychiatrist. I will also speak to his wife and see if she won't talk to the psychiatrist, you know, to tell him about the case.

PART IV

PSYCHIATRIST: *(Two weeks later)* This is a most interesting case. When I first spoke to the patient he was anxious, even panicky, and hostile toward me. Fortunately, you had prepared him for the consultation more skillfully than the neurologist, who referred him in a sort of accusing way. When you presented the matter as a "problem to be explored, and to help him with his feelings" he could accept it. The neurologist had said, "You ought to see a psychiatrist. There isn't anything *I* can do for you." The patient inferred that the neurologist thought him insane.

VISITING M.D: What do you make of his fears?



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PSYCHIATRIST: At first I wasn't sure. I spent several hours with him. There were a number of features suggestive of schizophrenia, but none seemed valid. I had a Rorschach test made, which often helps considerably. The pattern was not that of a psychotic patient. The wife created a good impression—on the surface. But the more I talked to her, the more I became convinced that she was the sick partner.

ATTENDING M.D: What!

PSYCHIATRIST: I am afraid so. You see, she is what is sometimes called an "ambulatory schizophrenic." He is a basically immature and neurotic person, but he does not have delusions. When he first suspected his wife, the time she and the other man disappeared together after the dance, he became sexually impotent. He was too ashamed to tell you about this. He had always been so very masculine that he could not relate it to me for a long time. As to the possibility of their wanting to murder him, I cannot say. He may be right, but, then, who knows. This sort of woman, a paranoid but so outwardly compensated as to appear reasonable and convincing, is the type psychiatrists can diagnose as schizophrenic but laymen and nonspecialists often feel is sane and misunderstood. Especially if she is as pretty and pleasant as this woman. But she wasn't always pleasant with me. When I suggested that she needed therapy she flew into a rage and ran from the office. However, she came back the next day and reluctantly agreed that she needed help but told me very little about her problem. I hope she will continue treatment. This problem is known as *folie à deux,* or double communicated insanity. Suggestibility plays a part when two closely associated persons have psychoses simultaneously—one member influenced by the other. One may be basically psychotic, the other suggestible. It may involve 3 or 4 persons and, in this case, may have involved the other man as well. People who live closely together can infect their delusions. It is fearfully reinforced when confirmed by some reality. The important point here is that one must look beyond the surface complaint, which may be only a symptom.

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Chemotherapy

Tubercle Bacillus Inhibitor

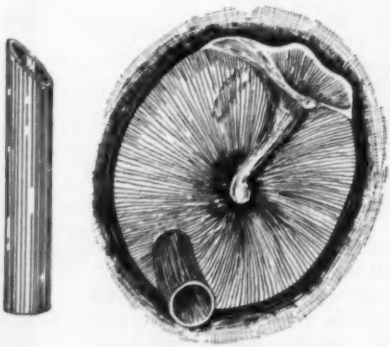
Growth of the H37Rv strain of *Mycobacterium tuberculosis* in Dubos medium is inhibited by the addition of 5,6-dimethylbenzimidazole or 1,2-dimethyl 4,5-diaminobenzene. The compounds appear to block the metabolism of vitamin B_{12} in the organisms, report Dr. Leonard N. Hallinger and associates of Montefiore Hospital, New York City. Structurally similar to vitamin B_{12}, the antimetabolic compounds may become incorporated in the metabolism of the tubercle bacillus and either block synthesis of vitamin B_{12} or compete with the vitamin in intermediary metabolic processes.

Proc. Soc. Exper. Biol. & Med. 85:624-626, 1954.

Otology

Tube Drainage for Otitis

Drainage through a plastic tube inserted into the middle ear may eliminate chronic secretory otitis media resistant to other methods. Dr. B. W. Armstrong of the Charlotte Eye, Ear and Throat Hospital, Charlotte, N.C., reports the successful treatment of 5 patients. A myringotomy incision is made, and fluid is removed by repeated suction and inflation. The 45°-bevelled



end of a piece of tubing about 1.5 mm. in diameter and 1 cm. long (see illustration) is inserted through the incision so that the lip of the bevel is back of the eardrum. Valsalva inflation is practiced daily, and the ear is inspected in a week. Tubing is usually left in place one to four weeks.

Arch. Otolaryng. 59:653-654, 1954.

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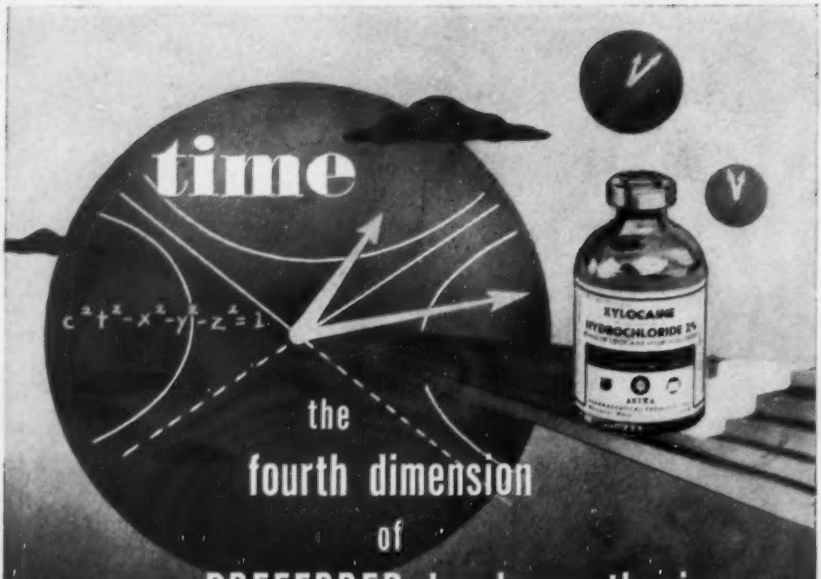

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Technic

Cellulose Sponges

During most surgical procedures, cellulose sponges may be used effectively to replace gauze sponges. The increased rate and amount of absorption and decreased wetting time of cellulose provide the surgeon with material superior to cotton gauze. The cellulose sponges proved to be satisfactorily pliant, absorptive, and nonirritating in texture when used in about 40 operations, report Dr. John R. Paine and associates of the University of Buffalo and Buffalo General Hospital, N. Y. The blood-impregnated sponge can be rinsed repeatedly in sterile water and used again so only 4 to 8 are required during an operation. Although gauze pledgets were also needed for small structures and bowels, the number was greatly decreased, thereby facilitating accurate sponge counts. Flecks of barium sulfate, incorporated into the wood product, provide means of roentgenographic detection of small portions of sponges inadvertently enclosed in wounds.

Surgery 34:803-809, 1953.

"We've found that bananas have a curious effect on the balance of some of the vertebrates."

Isotopes

Retention of Radioactivity

Necrosis of maternal and fetal thyroid tissue after administration of radioactive iodine to pregnant mice may be modified by pretreatment with thiouracil or methimazole. The compounds appear to stimulate excretion of radioiodine from the parent and also decrease fetal thyroid gland avidity for I^{131}, report Dr. Roberts Rugh and Elisabeth Booth of Columbia University, New York City. Thiouracil pretreatment induced rapid elimination of radioactivity and thus afforded the most effective protection against thyroid radionecrosis; methimazole had a similar effect. However, large doses of thyrotropic hormone tended to increase retention of radioactivity, so that approximately twice as much radioiodine was retained in pregnant as in nonpregnant, untreated animals. Small, nontoxic doses of thyrotropic hormone had little or no influence upon radioiodine retention or radionecrosis.

J. Pediat. 44:516-532, 1954.

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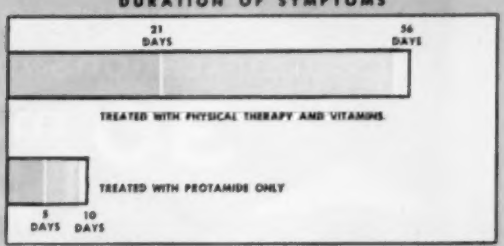


*"TREATMENT OF NEURITIS WITH PROTAMIDE"

Richard T. Smith, M.D.
Associate in Medicine and Chief of Arthritis at Jefferson Medical College and Hospital; Associate Physician and Chief of Arthritis, Pennsylvania Hospital; Director of Department of Rheumatology, Benjamin Franklin Clinic.

REPRINTS AVAILABLE

Diagnosis

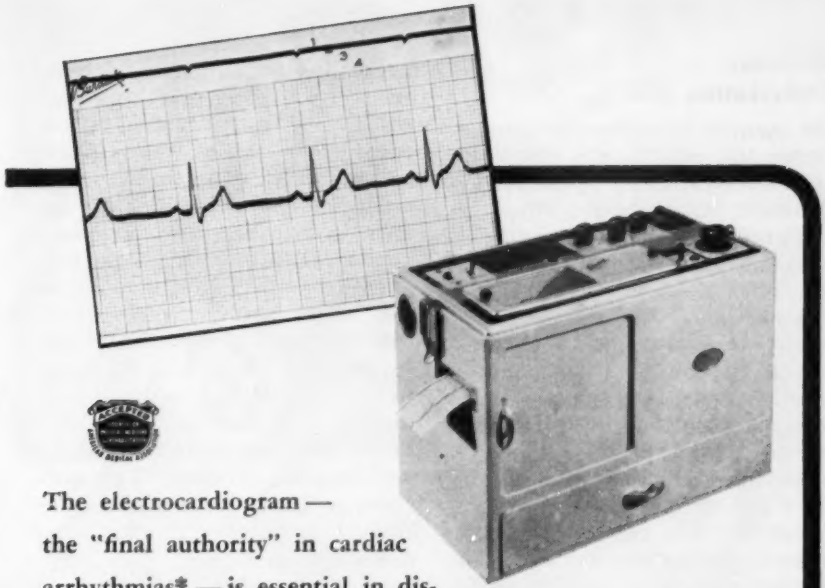
Pancreatitis and Trypsin

Elevations in antithrombin levels reflect increased trypsin release and are, therefore, of diagnostic value in the early stages of acute pancreatitis. Unlike hyperamylasemia associated with pancreatitis, trypsin-induced antithrombin elevations persist for longer periods of time and are unaltered by opiate administration, report Dr. Vince Moseley and associates of the Medical College of South Carolina, Charleston. Administration of neostigmine appears to invalidate the test. Determination of antithrombin levels was a useful diagnostic aid in 25 of 38 patients, either as a supplement to amylase determinations or in instances of borderline amylase titers. The test is considered positive during the first twenty-four hours after acute onset of disease when plasma clotting time is double the control standard after a five-minute incubation period and prolonged to five minutes or more after a ten-minute incubation. Antithrombin levels were nonspecific in patients with known or suspected pancreatic carcinomas.

South. M. J. 47:476-484, 1954.

Books Received

THE ENCYCLOPEDIA OF CHILD CARE AND GUIDANCE edited by Sidonie Matsner Gruenberg, 1,016 pp., ill. Doubleday and Co., Inc., Garden City, N.Y., 1954. $7.50



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*The Med. Clin. of North America, (Jan.) 1952, p. 93.

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Hormones

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An aqueous suspension of corticotropin zinc phosphate is apparently the most satisfactory type of ACTH available for prolonged effect. A daily intramuscular or subcutaneous injection of 20 units equals about 80 units of ordinary ACTH per day in divided doses, judging from subjective improvement and measurable changes in 17-ketosteroids, eosinophils, and electrolytes. When zinc phosphate or hydroxide is precipitated from ACTH solution at neutral *p*H, the suspension retains 99% of hormone activity and is injected with ease, report Dr. J. D. H. Homan and associates of Oss, The Netherlands. Since zinc phosphate tends to crystallize in the suspension on storage, a stable acid solution of ACTH and zinc chloride is prepared first. Just before use, ACTH zinc phosphate is obtained by adding trisodium phosphate and sodium hydroxide. Dr. Raymond Greene and Josephine Vaughan-Morgan of New End Hospital, London, report better symptomatic relief with the suspension than with common ACTH in 5 of 6 patients with rheumatoid arthritis, atopic eczema, or Simmonds' disease. Dr. D. G. Ferriman of North Middlesex Hospital, London, and associates prefer zinc phosphate to an ethyl-oleate-beeswax product, after trying both in 8 cases.

Lancet 266:541-549, 1954.

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Cardiorespiratory Disease

Ventilation and Smoking

Respiration of patients with bronchial asthma or obstructive pulmonary emphysema is not immediately affected by smoking. Of 118 subjects observed after smoking 3 cigarets, 108 had no perceptible change in vital capacity and greatest breathing capacity. The subjects, who were moderate habitual smokers, included 91 patients with bronchial asthma or pulmonary emphysema and 27 healthy men and women. Although the vital capacity and greatest breathing capacity were reduced in 10 patients, increase in bronchospasm was not perceptible. Vital capacity increased in 9 patients after tobacco smoke had provoked coughing and expectoration of mucoid or mucopurulent sputum, report Drs. Hylan A. Bickerman and Alvan L. Barach of Columbia University, New York City. A similar but greater increase in vital capacity was induced by inhalation of bronchodilatory aerosols. Residual volume measured before and after smoking in 27 patients showed no significant alteration. Minute volume of ventilation, breathing air, and 100% oxygen was not impaired. However, a beneficial decrease in minute volume was observed in 12 of the 35 patients after smoking had induced coughing and also eliminated retained secretions.

J. Lab. & Clin. Med. 43:455-462, 1954.

Hematology

Platelet Transfusion

Small volumes of normal blood concentrates, when transfused, may produce high platelet levels in recipients, making polycythemic donors or large volumes of normal whole blood unnecessary in the therapy of some hemorrhagic states. Collection of whole blood, centrifugation, and transfusion are done with sterile plastic containers and tubing, explain Dr. Frank H. Gardner and associates of the Peter Bent Brigham Hospital, the Children's Medical Center, and Harvard University, Boston. Platelet-rich plasma is prepared by centrifugation of the blood-filled plastic bags for fifteen minutes at 1,200 r.p.m. while chilled to 4° C. The resultant plasma, cleared of 80 to 90% of the leukocytes, is then siphoned to another plastic container for transfusion or preparation of platelet concentrates. Further centrifugation at 3,000 r.p.m. produces a creamy button on the bottom of the bag, representing platelets and remaining granulocytes. Resuspensions of the concentrate in plasma aliquots are then transfused by means of the complete plastic system. Initial platelet yields are lower with platelet-rich plasma or platelet concentrate than with whole blood, but plasma and concentrate maintain higher percentages of platelets after twenty-four hours.

J. Lab. & Clin. Med. 43:196-207, 1954.

Surgery

Control of Valve Deficiency

Constricting ligatures around the atrioventricular ring might be a feasible means of reducing mitral insufficiency. Enlargement of the left atrium, compensatory to valvular insufficiency, contributes to progressive increase in the size of the atrioventricular ring. Surgical reduction in the area of the ring and, in some instances, commissurotomy to release potentially functional cusps may diminish or eliminate regurgitation, suggest Dr. Julio R. Davila and associates of the Episcopal Hospital, Philadelphia. A blunt probe, bent to conform to the curvature of the ring, can be guided by an intraatrial palpating finger to pass within the space from anterior to posterior. The technic appears to be anatomically feasible when attempted in fresh autopsy material. However, inherent hazards exist in threading a suture around the medial zone in a beating heart. Puncture of the sinus of Valsalva, transfixion of aortic segments or mitral valve cusps, or penetration of endocardium may occur.

Surg., Gynec. & Obst. 98:407-412, 1954.

Radiology

Postradiation Bacteremia

Susceptibility of mice to *Pseudomonas* infections is increased by irradiation exposure. Animals inoculated orally with *Pseudomonas aeruginosa* organisms two hours or five or eleven days after exposure to 550 r of total body irradiation succumbed to the infection in direct relation to the amount of elapsed time after exposure. Dr. Carolyn W. Hammond and associates of the University of Chicago report that susceptibility to bacteremia was greatest on the eleventh day, somewhat less on the fifth day, and the least two hours after exposure. Increased susceptibility of mice after the prolonged period indicates an impairment of natural defenses against infection, rather than increased mucosal permeability.

J. Exper. Med. 99:411-418, 1954.

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Copper	1 mg.
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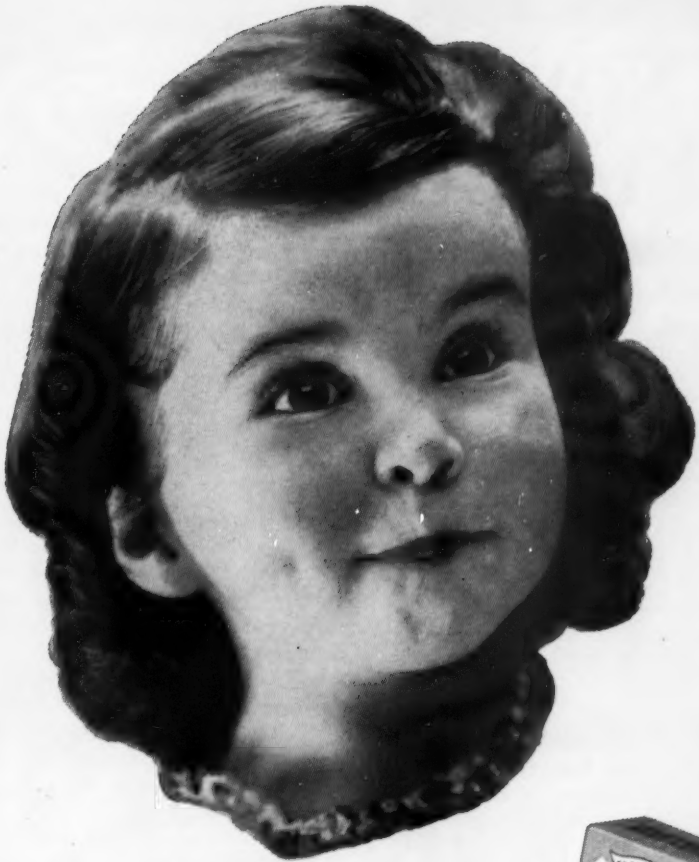
Cardiology

Value of Sedimentation Rate

Erythrocyte sedimentation rates appear to be unreliable indexes of inflammatory activity in conditions associated with hemoconcentration. Rates of 6 patients with massive myocardial infarction were normal during the first ten to fourteen days of acute illness, report Drs. Bruno W. Volk and Samuel Losner of the Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn. As hematocrit readings declined with improvement of the patient, erythrocyte sedimentation rates accelerated. Blood samples from patients with respiratory, rheumatic, or urinary infections were centrifuged and plasma aliquots were removed to produce in vitro hemoconcentration. As the hematocrit was raised, the previously elevated ESR became normal. Estimations of fibrinogen concentrations made during the first week of myocardial necrosis correlated more accurately with the course of the disease, despite hemoconcentration.

Am. Heart J. 47:658-663, 1954.

"You got an aspirin?"



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Test

Diagnosis of Sarcoidosis

Cutaneous tuberculoid reaction in response to intradermal inoculation of sarcoid tissue, the Kveim test, appears to be a valid indication of active sarcoidosis in man. The antigen, prepared from pooled specimens of Boeck's sarcoid lymph nodes, was injected intradermally into 88 patients, report Drs. Francis J. Rogers and John R. Haserick of the Cleveland Clinic. Reactions were positive in 40 patients, all of whom had active sarcoidosis. Results were negative during remission of the proliferative phase of the disease or with other disease processes. Criteria of a positive reaction are based on histologic identification of a tuberculoid reaction at the injection site six to eight weeks after antigen introduction. Microscopic examination of the excised area may reveal a granulomatous process even though no papules have formed. However, papular lesions alone are not diagnostic of sarcoidosis, since a nonspecific inflammatory response to the antigen may be produced.

Cleveland Clin. Quart. 21:79-89, 1954.

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Cytology

Gastric Cells with Anemia

In patients with pernicious anemia, exfoliated cells of the gastric mucosa may be pathognomonic of the disease. Gastric lavage specimens from 21 patients in complete hematologic remissions revealed variable numbers of characteristic macrocytic cells, report Dr. Cyrus E. Rubin of the University of Washington, Seattle, and Barbara W. Massey of the University of Chicago. The abnormal gastric columnar cells are approximately twice normal size, have heavy nuclear membranes, and contain small, intranuclear aggregates of refractile chromatin. Most of the cells obtained from chymotrypsin lavage are normal columnar cells, so that in some specimens careful cytologic examination is necessary to identify the variants. The irreversibility of the gastric lesions is evidenced by the fact that the aberrant cells are identical in untreated and treated subjects.

Am. J. M. Sc. 227:481-492, 1954.

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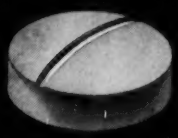

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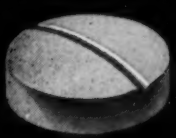

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SQUIBB

BASIC SCIENCE *Briefs*

Experimental Medicine

Induction of Hypertension

Sustained elevation in blood pressure is induced in dogs by intrarenal injection of finely divided silica particles. Unilateral nephrectomy and injection of 5 mg. of white silica into the renal artery of the contralateral kidney produced hypertension in 4 of 5 animals. Bilateral injection of the powder into intact kidneys also resulted in hypertension in 3 of 4 dogs. Dr. Campbell Moses of the University of Pittsburgh suggests that hypertension is due to the diffuse fibrous reaction of the kidneys to silica injection. Blood urea nitrogen levels were elevated initially after silica injections but returned to preoperative levels within three to ten weeks.

Proc. Soc. Exper. Biol. & Med. 85:590-592, 1954.

Physiology

Ultrasonic Heat Production

Hyperthermia produced in tissues after ultrasonic therapy apparently increases volume of blood flow in extremities of dogs. Blood flow was stimulated by ultrasonic energy of 1 watt per square centimeter applied for fifteen minutes. At this dose, muscle temperature was elevated to approximately 42° C., report Dr. C. J. Imig and associates of the State University of Iowa, Iowa City. Coagulation of tissue after large exposures may be one of the potential dangers of ultrasonic therapy.

Am. J. Phys. Med. 33:100-102, 1954.

Cardiology

Streptococcal Heart Damage

Focal areas of myocardial necrosis are produced in rabbits, guinea pigs, and mice after single injections of streptococcal proteinase. The crystalline proteolytic enzyme, isolated from filtrates of group A streptococci, appears to induce selective necrosis of cardiac and skeletal muscle, report Drs. Aaron Kellner and Theodore Robertson of New York Hospital–Cornell Medical Center, New York City. Cardiac lesions in the animals were not identical with those of rheumatic heart disease, and Aschoff nodules were not observed. However, myofibril necrosis and inflammatory reactions induced in the animals were similar to cardiac changes in patients with acute rheumatic heart disease. The data suggest that specific streptococcal products may be implicated in the pathogenesis of rheumatic heart disease in human beings.

J. Exper. Med. 99:495-504, 1954.

Cardiology

Induction of Tachycardia

Potassium liberated from ischemic heart muscle in dogs is apparently a major excitant in ventricular tachycardia. Coronary occlusion by high ligation of the anterior descending artery produced an increased concentration of potassium in the venous coronary blood draining the resulting ischemic area, report Dr. A. Sidney Harris and associates of Louisiana State University, New Orleans. A positive correlation was observed between the periods of intense ectopic ventricular activity and of major elevation of potassium concentration. With the disappearance of ectopic activity in infarction, the potassium concentration in the venous coronary blood samples reapproached control levels. Potassium chloride solutions in varying concentrations injected into coronary arteries of dogs without myocardial ischemia produced ventricular ectopic beats, tachycardia, and fibrillation in different trials. Intensity of the ectopic activity depended upon the amount of potassium chloride administered. Injection of tissue extracts from infarcted and noninfarcted myocardium also produced ectopic beats and ventricular tachycardia. Potassium analysis of tissue extracts revealed concentrations equal to some of the active potassium chloride solutions employed.

Science 119:200-203, 1954.

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Oncology

Human Tumor Implants

Cortisone and irradiation facilitate transplantation of human tumors to experimental animals. Successful implantation of a human soft-part sarcoma in the subcutaneous tissues of rats and hamsters has been achieved for over a year, reports Dr. Helene Wallace Toolan of New York City. The original neoplasm of about 1 cc. was removed from the calf of the leg of a man, minced, and transplanted subcutaneously in 7 rats. Now carried by over 1,000 rats and hamsters, the tumor is in the 30th to 32d transfer, has been grown successfully in chick embryo, and is in quantity production in tissue culture. The tumor grows progressively and kills the animal hosts in thirteen to sixteen days. A seven- to tenfold increment in tumor mass usually occurs during the fourteen-day interval between implantation and transfer, but a seventyfold increase has been observed. Gross and microscopic characteristics of the original neoplasm are maintained during continuous implantation, although slight variants of the cells occur occasionally. A single subcutaneous dose of cortisone injected at the time of implantation insures tumor growth in pouches or subcutaneous tissues of nonirradiated hamsters. This dose does not interfere with later experimental work.

Proc. Am. A. Cancer Research 1:49, 1954.

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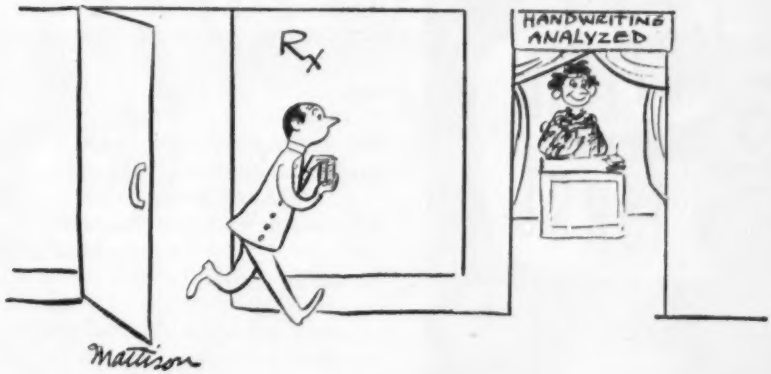
DRUGS - PRESCRIPTIONS



Cortisone

Inhibition of Atherogenesis

Development of atherosclerosis appears to be limited and cholesteremic levels reduced in rabbits fed cortisone in conjunction with cholesterol. Rabbits fed cholesterol and the hormone had less aortic atherosclerosis than animals fed only cholesterol, report Dr. Dina Gordon and associates of McGill University, Montreal. Although cortisone produces an endogenous hypercholesteremia when administered alone, the hormone appears to inhibit hypercholesteremia when the cholesterol is of exogenous origin. Serum lipid phosphorus is increased by cortisone or cholesterol administration and is not elevated further by combined administration of the compounds.

J. Exper. Med. 99:371-386, 1954.

Nutrition

Carbohydrate Utilization

Fructose is more readily utilized than are other carbohydrates included in the human diet. A comparison of the utilization of dextrose and fructose in subjects ranging in age from 5 to 89 years reveals that dextrose metabolism decreases significantly with the age of the individual, whereas the availability of fructose is affected only slightly. The order of increasing utilization, at all ages, for the carbohydrates tested, as reported by Dr. Anthony A. Albanese and associates of St. Luke's Hospital, New York City, is dextrose, sucrose, lactose, invert sugar, and fructose. Fructose and fructose-containing products are preferable for geriatric use.

Metabolism 3:154-159, 1954.

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Now Kleenex, the only tissue that pops up, serves just *one* at a time—comes in a new professional packing. The new white Kleenex box is *designed especially* for physicians and dentists. And you can order Kleenex* Tissues in an easy-to-store case of 24 boxes. Keep Kleenex handy—for dozens of office uses.

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TRADEMARK

provides sedation all along the line . . . with alertness unimpaired

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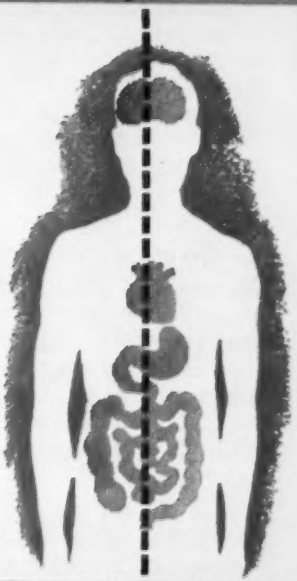

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Mephenesin	250	mg.
Calcium Glutamate . .	62.5	mg.
Phenobarbital	7.5	mg.
1-Hyoscyamine HBr . .	0.0625	mg.

DOSAGE: 2 capsules t.i.d. or as indicated, after meals or with milk or fruit juices.

SUPPLIED: Bottles of 100, 500, and 1000 distinctive brown-and-yellow capsules.

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LATE REPORTS *from Medical Centers*

★ CHARLES COOK HASTINGS HOME, Altadena, Calif.—The only medium that provides enough vitamin A for patients with slightly advanced tuberculosis is crude cod-liver oil concentrate, finds Dr. Horace R. Getz. Vitamin A in other forms is not fully utilized, although pure vitamin C can be absorbed without difficulty.

★ UNIVERSITY OF WISCONSIN, Madison—How yeast-like organisms produce riboflavin has been shown by radioactive carbon incorporated into nutrients of Ashbya gossypii. Data obtained by G. W. E. Plaut and Patricia Broberg may also throw light on natural synthesis of vitamin B_{12}, which somewhat resembles B_2 structurally.

★ UNIVERSITY OF CALIFORNIA AT LOS ANGELES—Muscular dystrophy and other neuromuscular disorders may be caused by potassium deficiency, believe Dr. William Blahd and associates. Perhaps owing to inherited cellular defect, potassium leaks persistently from muscle cells until, in late stages of disease, chemical functions can no longer be maintained.

★ TUFTS COLLEGE, Boston—A fat-burning hormone named adipokinin has been isolated from the pituitary in partially pure form. When administered to animals, the hormone greatly accelerates rates of fat metabolism, reports Dr. Isadore Nathan Rosenberg. Adipokinin appears ideal for treatment for human obesity, though use may be delayed for some years until residual ACTH can be entirely removed.

★ MONTREAL GENERAL HOSPITAL, Montreal, Canada, and Rahway, N.J.—Antitubercular compounds of the ethyl mercapto class are exceptionally potent and safe when used in mice, Dr. John H. Quastel and associates report. S-ethylcysteine has twice the strength of pyrazinamide and several times that of PAS. One type of compound is active against bacteria resistant to isoniazid.

★ MAYO CLINIC, Rochester, Minn.—An analgesic drug, MRD-125, banishes pain without producing unconsciousness. In the past year the drug has been used in 112 cases, chiefly for extraction of teeth but also for hemorrhoidectomy and operations on eye muscles, reports Dr. John S. Lundy. MRD-125 is effective also during change of dressings after severe burns. Patients are able to cooperate during surgery.

★ UNIVERSITY OF CALIFORNIA, Berkeley—An erythropoietic pituitary hormone is antianemic for animals and possibly for human beings. Hormone treatment of newborn rats prevented normal reduction of red cells in the initial eighteen days, report Drs. Alexander N. Contoupoulos and John H. Lawrence. Testosterone, thyroxin, ACTH, and iron gluconate were ineffectual.

★ UNIVERSITY OF WISCONSIN, Madison—The cerebral cortex may be less important than supposed, since lower parts of the primate nervous system can perform motor functions previously ascribed to the upper brain alone. When the entire cortex of 2 monkeys was removed on both sides, the animals managed to sit, walk, and right themselves in limited fashion, report Drs. Clinton N. Woolsey and Ann M. Travis.

Patients . . . I have met

•The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.

Politics

When I told our state representative that his wife had just delivered triplets, he raged, "Impossible! I'll demand a recount!"—E.K.

Incurable

While working for the draft board I received this letter: "Dear Doctor: I just got married and I'm suffering from romantic fever. Please excuse me from the draft."—L.L.B.

Financier

"If I don't get five thousand dollars by next Friday, I'll be bankrupt," said my patient. "I haven't been able to eat or sleep for weeks."

"Why didn't you come to me sooner?" I asked.

"You mean you could raise the money for me?"—B.P.S.

"Well, now, what can we do for you?"


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B. F. Goodrich gloves have tapered fingers for better fit, full backs shaped like your hand, long narrow wrists to fit snugly over gown or white jacket—won't roll down. They're tissue-thin even at the finger tips.

Made in white or brown, smooth or "cutinized". Sizes 6 to 10.

"Special purpose" gloves for doctors who are allergic to ordinary rubber gloves are just as thin as all other B. F. Goodrich gloves. Cuff has a red band for easy identification. Sizes 6½ to 9½.

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Surgeons' Gloves

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Sportive

A business man told me that whenever he made a speech he got butterflies in his stomach. When I suggested that he take an aspirin, he answered, "That doesn't help. The butterflies play ping-pong with it."—E.K.

Veracity

"Where do you feel the worst?" I asked the little girl I was examining.
"In school," she answered.—L.L.B.

"Exhale, man, exhale!"

To the Point

A spinster in the clinic waiting room administered a severe tongue lashing to an elderly gentleman who had recently married a young woman. When the tirade was over the gentleman replied, "Miss Brown, I'd rather smell perfume than liniment in bed."—E.K.

Skinflint

A wealthy old man asked what could be done about the skin lesions on his face and arms. When I suggested that he go to a dermatologist, he answered, "Don't think I will. You other doctors have nearly skinned me. A skin man would really finish the job."—S.L.H.

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Flavor comes in where caffein went out. Instant Postum gives all the warmth and satisfaction you want from a fine hot drink. Finally—and your patients will want to know this—it costs less than a penny a cup.

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Hydrocortisone acetate . . . . . 5 mg.
(0.5%) or 10 mg. (1%) or 25 mg. (2.5%)
Neomycin sulfate . . . . . .5 mg.**
Methylparaben . . . . . .0.2 mg.
Butyl-p-hydroxybenzoate . . . 1.8 mg.

Supplied:
5 Gm. and 20 Gm. tubes in plastic cases.

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